SEQUENCE LISTING

<110> DENEFLE, Patrice
ROSIER-MONTUS, Marie-Francoise
PRADES, Catherine
ARNOULD-REGUIGNE, Isabelle
DUVERGER, Nicolas
ALLIKMETS, Rando
DEAN, Michael

<120> NUCLEIC ACIDS OF THE HUMAN ABCA5, ABCA6, ABCA9, AND ABCA10 GENES, VECTORS CONTAINING SUCH NUCLEIC ACIDS, AND USES THEREOF

<130> ABCA5, 6, 9, 10

<140> US 10/005,338

<141> 2001-12-07

<150> US 60/263,231
<151> 2001-01-23

<150> FR 00403440.1
<151> 2000-12-07

<160> 217

<170> PatentIn Ver. 2.1

<210> 1
<211> 6525
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 4449
<223> n=unknown, may be a or g or c or t

<400> 1
```
aaaatgttga tattttctct tagcaggctg tcaaccaggt taggttcagg tcataagttt 60
ctacccacat tctttgaact gtagttgtca ttttagttta tttttcaaaa acttttgcag 120
tacctttttg gtctgtcttg tgtgtgcctt gcagtgaaca gtctggattt ggacagtggt 180
ctgtctgtta gttcagtttc tcaagccttt gtcacactaa taggattgga tttatgtatg 240
tccagcttgg gaattattac aggaattaaa aacaactttt tagagtgctt tcctgagctc 300
tctttctatt tgttcccct tctacttttt gcttccctgt ggctgctgtt tctatcctcc 360
agccagagag ctagtgttta ttttctccat tgtgttacac acttgtcag ctgcaaccac 420
catatccagg gcccaatggt aggaggtaga gaagaaaagc aaaagggatt ggcctcatcc 480
tcttacaacg atagttccat tgaatagaga gaaaggtttt cctgcctcag agtgttggct 540
gcactaggct tttgttactg tagtctggcc ctgttaccat gggattgctt gcatgtgggg 600
atacaggaga attcagaaaa gaaaaaaaga tttgctattt ctacattctc cctgagcatt 660
aagacctccc ttgcccattc ctcaattcaa agctaaggct tcttctggag ctgcctctgt 720
gggcggttcg ggagatacca aaggagaaaa agtaccactg ttgatatggt ggtatttcaa 780
attctggtct accctatttc acatgccttg tttactttc agagctgaca gattgctgct 840
ccatgcattc tgtccagttt cctaagagag acagcttgga gtatgcttaa tccatcttac 900
ctgggactga aacagctgct tattttgccg ttaaaaatta catgcagttt actgcgtggc 960
tccgggtttg tttgtttgtt tttcctcttt aataggttta ttcagaaaac atgtccactg 1020
caattaggga ggtaggagtt tggagacaga ccagaacact tctactgaag aattacttaa 1080
ttaaatgcag aaccaaaaag agtagtgttc aggaaattct ttttccacta ttttttttat 1140
tttggttaat attaattagc atgatgcatc caaataagaa atatgaagaa gtgcctaata 1200
tagaactcaa tcctatggac aagtttactc tttctaatct aattcttgga tatactccag 1260
tgactaatat tacaagcagc atcatgcaga aagtgtctac tgatcatcta cctgatgtca 1320
taattactga agaatataca aatgaaaaag aaatgttaac atccagtctc tctaagccga 1380
gcaactttgt aggtgtggtt ttcaaagact ccatgtccta tgaacttcgt tttttttcctg 1440
```

```
atatgattcc agtatcttct atttatatgg attcaagagc tggctgttca aaatcatgtg 1500
aggctgctca gtactggtcc tcaggtttca cagtttttaca agcatccata gatgctgcca 1560
ttatacagtt gaagaccaat gtttctcttt ggaaggagct ggagtcaact aaagctgtta 1620
ttatgggaga aactgctgtt gtagaaatag ataccttttcc ccgaggagta attttaatat 1680
acctagttat agcattttca cctttttggat acttttttggc aattcatatc gtagcagaaa 1740
aagaaaaaaa aataaaagaa tttttaaaga taatgggact tcatgatact gccttttggc 1800
tttcctgggt tcttctatat acaagtttaa ttttttcttat gtcccttctt atggcagtca 1860
ttgcgacagc ttctttgtta tttcctcaaa gtagcagcat tgtgatattt ctgctttttt 1920
tcctttatgg attatcatct gtatttttttg ctttaatgct gacacctctt tttaaaaaat 1980
caaaacatgt gggaatagtt gaatttttttg ttactgtggc ttttggattt attggcctta 2040
tgataatcct catagaaagt tttcccaaat cgttagtgtg gcttttcagt cctttctgtc 2100
actgtacttt tgtgattggt attgcacagg tcatgcattt agaagatttt aatgaaggtg 2160
cttcattttc aaatttgact gcaggcccat atcctctaat tattacaatt atcatgctca 2220
cacttaatag tatattctat gtcctcttgg ctgtctatct tgatcaagtc attccagggg 2280
aatttggctt acggagatca tctttatatt ttctgaagcc ttcatattgg tcaaagagta 2340
aaagaaatta tgaggagtta tcagagggca atgttaatgg aaatattagt tttagtgaaa 2400
ttattgagcc agtttcttca gaatttgtag gaaaagaagc cataagaatt agtggtattc 2460
agaagacata cagaaagaag ggtgaaaaatg tggaggcttt gagaaatttg tcatttgaca 2520
tatatgaggg tcagattact gccttacttg gccacagtgg aacaggaaag agtacattga 2580
tgaatattct ttgtggactc tgcccacctt ctgatgggtt tgcatctata tatggacaca 2640
gagtctcaga aatagatgaa atgtttgaag caagaaaaaat gattggcatt tgtccacagt 2700
tagatataca ctttgatgtt ttgcagtaag aagaaaattt atcaattttg gcttcaatca 2760
aagggatacc agccaacaat ataatacaag aagtgcagaa ggtttttacta gatttagaca 2820
tgcagactat caaagataac caagctaaaa aattaagtgg tggtcaaaaa agaaagctgt 2880
cattaggaat tgctgttctt gggaacccaa agatactgct gctagatgaa ccaacagctg 2940
gaatggaccc ctgttctcga catattgtat ggaatctttt aaaatacaga aaagccaatc 3000
gggtgacagt gttcagtact catttcatgg atgaagctga cattcttgca gataggaaag 3060
ctgtgatatc acaaggaatg ctgaaatgtg ttggttcttc aatgttcctc aaaagtaaat 3120
gggggatcgg ctaccgcctg agcatgtaca tagacaaata ttgtgccaca gaatctcttt 3180
cttcactggt taaacaacat atacctggag ctactttatt acaacagaat gaccaacaac 3240
ttgtgtatag cttgcctttc aaggacatgg acaaattttc aggtttgttt tctgccctag 3300
acagtcattc aaatttgggt gtcatttctt atggtgtttc catgacgact ttggaagacg 3360
tatttttaaa gctagaagtt gaagcagaaa ttgaccaagc agattatagt gtatttactc 3420
agcagccact ggaggaagaa atggattcaa aatcttttga tgaaatggaa cagagcttac 3480
ttattctttc tgaaaccaag gcttctctag tgagcaccat gagcctttgg aaacaacaga 3540
tgtatacaat agcaaagttt catttctttta ccttgaaacg tgaaagtaaa tcagtgagat 3600
cagtgttgct tctgctttta attttttttca cagttcagat ttttatgttt ttggttcatc 3660
actctttttaa aaatgctgtg gttcccatca aacttgttcc agacttatat tttctaaaac 3720
ctggagacaa accacataaa tacaaaacaa gtctgcttct tcaaaattct gctgactcag 3780
atatcagtga tcttattagc tttttcacaa gccagaacat aatggtgacg atgattaatg 3840
acagtgacta tgtatccgtg gctcccccata gtgcggcttt aaatgtgatg cattcagaaa 3900
aggactatgt ttttgcagct gttttcaaca gtactatggt ttattcttta cctatattag 3960
tgaatatcat tagtaactac tatctttatc atttaaatgt gactgaaacc atccagatct 4020
ggagtacccc attctttcaa gaaattactg atatagtttt taaaattgag ctgtattttc 4080
aagcagcttt gcttggaatc attgttactg caatgccacc ttacttttgcc atggaaaatg 4140
cagagaatca taagatcaaa gcttatactc aacttaaact ttcaggtctt ttgccatctg 4200
catattggat tggacaagct gttgttgata tccccttatt ttttatcatt cttattttga 4260
tgctaggaag cttactggca tttcattatg gattatattt ttatactgta aagttccttg 4320
ctgtggtttt ttgccttatt ggttatgttc catcagttat tctgttcact tatattgctt 4380
ctttcacctt taagaaaatt ttaaatacca aagaattttg gtcatttatc tattctgtgg 4440
cagcgttgnc ttgtattgca atcactgaaa taactttctt tatgggatac acaattgcaa 4500
ctattcttca ttatgccttt tgtatcatca ttccaatcta tccacttcta ggttgcctga 4560
tttctttcat aaagatttct tggaagaatg tacgaaaaaa tgtggacacc tataatccat 4620
gggataggct ttcagtagct gttatatcgc cttacctgca gtgtgtactg tggatttttcc 4680
tcttacaata ctatgagaaa aaatatggag gcagatcaat aagaaaagat cccttttttca 4740
gaaacctttc aacgaagtct aaaaatagga agcttccaga accaccagac aatgaggatg 4800
aagatgaaga tgtcaaagct gaaagactaa aggtcaaaga gctgatgggt tgccagtgtt 4860
gtgaggagaa accatccatt atggtcagca atttgcataa agaatatgat gacaagaaag 4920
atttttcttct ttcaagaaaa gtaaagaaag tggcaactaa atacatctct ttctgtgtga 4980
aaaaggaga gatcttagga ctattgggtc caaatggtgc tggcaaaagc acaattatta 5040
atattctggt tggtgatatt gaaccaactt caggccaggt attttttagga gattattctt 5100
cagagacaag tgaagatgat gattcactga agtgtatggg ttactgtcct cagataaacc 5160
ctttgtggcc agatactaca ttgcaggaac attttgaaat ttatggagct gtcaaaggaa 5220
tgagtgcaag tgacatgaaa gaagtcataa gtcgaataac acatgcactt gatttaaaag 5280
                                Page  2
```

```
aacatcttca gaagactgta aagaaactac ctgcaggaat caaacgaaag ttgtgttttg 5340
ctctaagtat gctagggaat cctcagatta ctttgctaga tgaaccatct acaggtatgg 5400
atcccaaagc caaacagcac atgtggcgag caattcgaac tgcatttaaa aacagaaagc 5460
gggctgctat tctgaccact cactatatgg aggaggcaga ggctgtctgt gatcgagtag 5520
ctatcatggt gtctgggcag ttaagatgta tcggaacagt acaacatcta aagagtaaat 5580
ttggaaaagg ctactttttg gaaattaaat tgaaggactg gatagaaaac ctagaagtag 5640
accgccttca aagagaaatt cagtatattt tcccaaatgc aagccgtcag gaaagttttt 5700
cttctatttt ggcttataaa attcctaagg aagatgttca gtccctttca caatcttttt 5760
ttaagctgga agaagctaaa catgcttttg ccattgaaga atatagcttt tctcaagcaa 5820
cattggaaca ggttttttgta gaactcacta aagaacaaga ggaggaagat aatagttgtg 5880
gaactttaaa cagcacactt tggtgggaac gaacacaaga agatagagta gtattttgaa 5940
tttgtattgt tcggtctgct tactgggact tctttctttt tcacttaatt ttaactttgg 6000
tttaaaaagt tttttattgg aatggtaact ggagaaccaa gaacgcactt gaaatttttc 6060
taagctcctt aattgaaatg ctgtggttgt gtgttttgct tttctttaaa taaaacgtat 6120
gtataattaa gtgaagctgc atgtttgtat tgaagtatat tgaactatat agtttgtatg 6180
tcatcttttt caccattcag aaacagtgct tctgaatttg tgatttaaag gaattgtaat 6240
agaatagttt tatttttaag ttatctttaa gtttatgcca tcttcttaaa taagtacgta 6300
atgttccaat ctaaataaaa aactaataca taactaatgc atagaaaaga tacataaagc 6360
aatgtgaaag tttcttgctt ctcctttta atttctaaaa aagccacttt gaatggaagt 6420
tgtcatccgt aaaagctgaa gtgtaagcac taggaaatct caatatagag atttgaggaa 6480
agttatatcc actaggtggc agtcattgat cataataagt gaaat          6525


<210>  2
<211>  5296
<212>  DNA
<213>  Homo sapiens

<400>  2
ctgctggagt aggcacccat ttaaagaaaa aatgaagaag cagcaataaa gaagttgtaa 60
tcgttaccta gacaaacaga gaactggttt tgacagtgtt tctagagtgc tttttattat 120
tttcctgaca gttgtgttcc accatgatta ctttctcctt cagcgaatag gctaaatgaa 180
tatgaaacag aaaagcgtgt atcagcaaac caaagcactt ctgtgcaaga attttcttaa 240
gaaatggagg atgaaaagag agagcttatt ggaatggggc ctctcaatac ttctaggact 300
gtgtattgct ctgtttccca gttccatgag aaatgtccag tttcctggaa tggctcctca 360
gaatctggga agggtagata aatttaatag ctcttcttta atggttgtgt atacaccaat 420
atctaattta acccagcaga taatgaataa aacagcactt gctcctcttt tgaaaggaac 480
aagtgtcatt ggggcaccaa ataaaacaca catggacgaa atacttctgg aaaatttacc 540
atatgctatg ggaatcatct ttaatgaaac tttctcttat aagttaatat ttttccaggg 600
atataacagt ccactttgga aagaagattt ctcagctcat tgctgggatg gatatggtga 660
gttttcatgt acattgacca aatactggaa tagaggattt gtggctttac aaacagctat 720
taatactgcc attatagaaa tcacaaccaa tcaccctgtg atggaggagt tgatgtcagt 780
tactgctata actatgaaga cattaccttt cataactaaa aatcttcttc acaatgagat 840
gtttatttta ttcttcttgc ttcatttctc cccacttgta tattttatat cactcaatgt 900
aacaaaagag agaaaaaagt ctaagaattt gatgaaaatg atgggtctcc aagattcagc 960
attctggctc tcctggggtc taatctatgc tggcttcatc tttattattt ccatattcat 1020
tacaattatc ataacattca cccaaattat agtcatgact ggcttcatgg tcatatttat 1080
actctttttt ttatatggct tatctttggt agctttggtg ttcctgatga gtgtgctgtt 1140
aaagaaagct gtcctcacca atttggttgt gtttctcctt accctctttt ggggatgtct 1200
gggattcact gtattttatg aacaacttcc ttcatctctg gagtggattt tgaatatttg 1260
tagccctttt gcctttacta ctggaatgat tcagattatc aaactggatt ataacttgaa 1320
tggtgtaatt tttcctgacc cttcaggaga ctcatataca atgatagcaa ctttttctat 1380
gttgcttttg gatggtctca tctacttgct attggcatta tactttgaca aaattttacc 1440
ctatggagat gagcgccatt attctccttt attttcttg aattcatcat cttgtttcca 1500
acaccaaagg actaatgcta aggttattga gaaagaaatc gatgctgagc atccctctga 1560
tgattatttt gaaccagtag ctcctgaatt ccaaggaaaa gaagccatca gaatcagaaa 1620
tgttaagaag aatataaag gaaaatctgg aaaagtggaa gcattgaaag gcttgctctt 1680
tgacatatat gaaggtcaaa tcacggcaat cctgggtcac agtggagctg gcaaatcttc 1740
actgctaaat attcttaatg gattgtctgt tccaacagaa ggatcagtta ccatctataa 1800
taaaaatctc tctgaaatgc aagacttgga ggaaatcaga aagataactg gcgtctgtcc 1860
tcaattcaat gttcaatttg acatactcac cgtgaaggaa aacctcagcc tgtttgctaa 1920
aataaaaggg attcatctaa aggaagtgga acaagaggta caacgaatat tattggaatt 1980
ggacatgcaa aacattcaag ataaccttgc taaacattta agtgaaggac agaaaagaaa 2040
gctgactttt gggattacca tttaggaga tcctcaaatt ttgctttag atgaaccaac 2100
```

```
tactggattg gatccctttt ccagagatca agtgtggagc ctcctgagag agcgtagagc 2160
agatcatgtg atccttttca gtacccagtc catggatgag gctgacatcc tggctgatag 2220
aaaagtgatc atgtccaatg ggagactgaa gtgtgcaggt tcttctatgt ttttgaaaag 2280
aaggtggggt cttggatatc acctaagttt acataggaat gaaatatgta acccagaaca 2340
aataacatcc ttcattactc atcacatccc cgatgctaaa ttaaaaacag aaaacaaaga 2400
aaagcttgta tatactttgc cactggaaag gacaaataca tttccagatc ttttcagtga 2460
tctggataag tgttctgacc agggagtgac aggttatgac atttccatgt caactctaaa 2520
tgaagtcttt atgaaactgg aaggacagtc aactatcgaa caagatttcg aacaagtgga 2580
gatgataaga gactcagaaa gcctcaatga aatggagctg gctcactctt ccttctctga 2640
aatgcagaca gctgtgagtg acatgggcct ctggagaatg caagtctttg ccatggcacg 2700
gctccgtttc ttaaagttaa aacgtcaaac taaagtgtta ttgaccctat tattggtatt 2760
tggaatcgca atattccctt tgattgttga aaatataata tatgctatgt aaaatgaaaa 2820
gatcgattgg gaatttaaaa acgaattgta tttttctctct cctggacaac ttccccagga 2880
accccgtacc agcctgttga tcatcaataa cacagaatca aatattgaag attttataaa 2940
atcactgaag catcaaaata tactttTGGA agtagatgac tttgaaaaca gaaatggtac 3000
tgatggcctc tcatacaatg gagctatcat agtttctggt aaacaaaagg attatagatt 3060
ttcagttgtg tgtaatacca agagattgca ctgttttcca attcttatga atattatcag 3120
caatgggcta cttcaaatgt ttaatcacac acaacatatt cgaattgagt caagcccatt 3180
tcctcttagc cacataggac tctggactgg gttgccggat ggttcctttt tcttattttt 3240
ggttctatgt agcatttctc cttatatcac catgggcagc atcagtgatt acaagaaaaa 3300
tgctaagtcc cagctatgga tttcaggcct ctacacttct gcttactggt gtgggcaggc 3360
actagtggac gtcagcttct tcatttttaat tctcctttta atgtatttaa ttttctacat 3420
agaaaacatg cagtaccttc ttattacaag ccaaattgtg tttgctttgg ttatagttac 3480
tcctggttat gcagcttctc ttgtcttctt catatatatg atatcatttta tttttcgcaa 3540
aaggagaaaa aacagtggcc tttggtcatt ttacttcttt tttgcctcca ccatcatgtt 3600
ttccatcact ttaatcaatc attttgacct aagtatattg attaccacca tggtattggt 3660
tccttcatat accttgcttg gatttaaaac ttttttggaa gtgagagacc aggagcacta 3720
cagagaattt ccagaggcaa attttgaatt gagtgccact gattttctag tctgcttcat 3780
accctacttt cagactttgc tattcgtttt tgttctaaga tgcatggaac taaaatgtgg 3840
aaagaaaaga atgcgaaaag atcctgtttt cagaatttcc ccccaaagta gagatgctaa 3900
gccaaatcca gaagaaccca tagatgaaga tgaagatatt caaacagaaa gaataagaac 3960
agccactgct ctgaccactt caatcttaga tgagaaacct gttataattg ccagctgtct 4020
acacaaagaa tatgcaggcc agaagaaaag ttgctttttca aagaggaaga agaaaatagc 4080
agcaagaaat atctctttct gtgttcaaga aggtgaaatt ttgggattgc taggacccag 4140
tggtgctgga aaaagttcat ctattagaat gatatctggg atcacaaagc caactgctgg 4200
agaggtggaa ctgaaaggct gcagttcagt tttgggccac ctggggtact gccctcaaga 4260
gaacgtgctg tggcccatgc tgacgttgag ggaacacctg gaggtgtatg ctgccgtcaa 4320
ggggctcagg aaagcggacg cgaggctcgc catcgcaaga ttagtgagtg ctttcaaact 4380
gcatgagcag ctgaatgttc ctgtgcagaa attaacagca ggaatcacga gaaagttgtg 4440
ttttgtgctg agcctcctgg gaaactcacc tgtcttgctc ctggatgaac catctacggg 4500
catagacccc acagggcagc agcaaatgtg gcaggcaatc caggcagtcg ttaaaaacac 4560
agagagaggt gtcctcctga ccacccataa cctggctgag gcggaagcct tgtgtgaccg 4620
tgtggccatc atggtgtctg gaaggcttag atgcattggc tccatccaac acctgaaaaa 4680
caaacttggc aaggattaca ttctagagct aaaaagtgaag gaaacgtctc aagtgacttt 4740
ggtccacact gagattctga agcttttccc acaggctgca gggcaggaaa ggtattcctc 4800
tttgttaacc tataagctgc ccgtggcaga cgtttaccct ctatcacaga cctttcacaa 4860
attagaagca gtgaagcata actttaacct ggaagaatac agcctttctc agtgcacact 4920
ggagaaggta ttcttagagc tttctaaaga acaggaagta ggaaattttg atgaagaaat 4980
tgatacaaca atgagatgga aactcctccc tcattcagat gaaccttaaa acctcaaacc 5040
tagtaatttt ttgttgatct cctataaact tatgttttat gtaataatta atagtatgtt 5100
taattttaaa gatcatttaa aattaacatc aggtatattt tgtaaattta gttaacaaat 5160
acataaattt taaaattatt cttcctctca aacatagggg tgatagcaaa cctgtgataa 5220
aggcaataca aaatattagt aaagtcaccc aaagagtcag gcactgggta ttgtggaaat 5280
aaaactatat aaactt                                                  5296
```

<210> 3
<211> 5981
<212> DNA
<213> Homo sapiens

<400> 3
```
attcacaatg aatgtgaaat taaaagcatg atgtagtagt gacccaaaag gaatgtgaat 60
tctcctccag aacatgcaga gacccatgga tgaactgtgt ttctagattt ttcctccagc 120
```
Page 4

```
tttcctgaga gaaacaggtc aaaatgagca agagacgcat gagcgtgggt cagcaaacat 180
gggctcttct ctgcaagaac tgtctcaaaa aatggagaat gaaaagacag accttgttgg 240
aatggctctt ttcatttctt ctggtactgt ttctgtacct attttttctcc aatttacatc 300
aagttcatga cactcctcaa atgtcttcaa tggatctggg acgtgtagat agttttaatg 360
atactaatta tgttattgca tttgcacctg aatccaaaac tacccaagag ataatgaaca 420
aagtggcttc agccccattc ctaaaaggaa gaacaatcat ggggtggcct gatgaaaaaa 480
gcatggatga attggatttg aactattcaa tagacgcagt gagagtcatc tttactgata 540
ccttctccta ccatttgaag ttttcttggg gacatagaat ccccatgatg aaagagcaca 600
gagaccattc agctcactgt caagcagtga atgaaaaaat gaagtgtgaa ggttcagagt 660
tctgggagaa aggctttgta gcttttcaag ctgccattaa tgctgctatc atagaaatcg 720
caacaaatca ttcagtgatg gaacagctga tgtcagttac tggtgtacat atgaagatat 780
tacctttтgt tgcccaagga ggagttgcaa ctgattttтt cattttctтt tgcattattt 840
ctttttctac atttatatac tatgtatcag tcaatgttac acaagaaaga caatacatta 900
cgtcattgat gacaatgatg ggactccgag agtcagcatt ctggctttcc tggggtttga 960
tgtatgctgg cttcatcctt atcatggcca ctttaatggc tcttattgta aaatctgcac 1020
aaattgtcgt cctgactggt tttgtgatgg tcttcaccct cttтctcctc tatggcctgt 1080
ctttgataac tttagctttc ctgatgagtg tgttgataaa gaaacctttc cttacgggct 1140
tggttgtgtt tctccttatt gtcttttggg ggatcctggg attcccagca ttgtatacac 1200
atcttcctgc atttttggaa tggactttgt gtcttcttag cccctttgcc ttcactgttg 1260
ggatggccca gcttatacat ttggactatg atgtgaattc taatgcccac ttggattctt 1320
cacaaaatcc ataccctcata atagctactc ttttcatgtt ggtttttgac acccttctgt 1380
atttggtatt gacattatat tttgacaaaa ttttgcccgc tgaatatgga catcgatgtt 1440
ctcccttgtt tttcctgaaa tcctgttttt ggtttcaaca cggaagggct aatcatgtgg 1500
tccttgagaa tgaaacagat tctgatccta cacctaatga ctgtttтgaa ccagtgtctc 1560
cagaattctg tgggaaggaa gccatcagaa tcaaaaatct taaaaaagaa tatgcaggga 1620
agtgtgagag agtagaagct ttgaaaggtg tggtgtttga catatatgaa ggccagatca 1680
ctgccctcct tggtcacagt ggagctggaa aaactaccct gttaaacata cttagtgggt 1740
tgtcagttcc aacatcaggt tcagtcactg tctataatca cacactttca agaatggctg 1800
atatagaaaa tatcagcaag ttcactggat tttgtccaca atccaatgtg caatttggat 1860
ttctcactgt gaaagaaaac ctcaggctgt ttgctaaaat aaaagggatt ttgccacatg 1920
aagtggagaa agaggtacaa cgagttgtac aggaattaga aatggaaaat attcaagaca 1980
tccttgctca aaacttaagt ggtggacaaa ataggaaact aacttttggg attgccattt 2040
taggagatcc tcaagttттg ctattggatg aaccgactgc tggattggat cctcttttcaa 2100
ggcaccgaat atggaatctc ctgaaagagg ggaaatcaga cagagtaatt ctcttcagca 2160
cccagtttat agatgaggct gacattctgg cggacaggaa ggtgttcata tccaatggga 2220
agctgaagtg tgcaggctct tctctgttcc ttaagaagaa atggggcata ggctaccatt 2280
taagtttgca tctgaatgaa aggtgtgatc cagagagtat aacatcactg gttaagcagc 2340
acatctctga tgccaaattg acagcacaaa gtgaagaaaa acttgtatat atтttgcctt 2400
tggaaaggac aaacaaattt ccagaacttt acagggatct tgatagatgt tctaaccaag 2460
gcattgagga ttatggtgtt tccataacaa ctттgaatga ggtgtttctg aaattagaag 2520
gaaaatcaac tattgatgaa tcagatattg gaatttgggg acaattacaa actgatgggg 2580
caaaagatat aggaagcctt gttgagctgg aacaagtтtt gtcttccttc cacgaaacaa 2640
ggaaaacaat cagtggcgtg gcgctctgga ggcagcaggt ctgtgcaata gcaaaagttc 2700
gcttcctaaa gttaaagaaa gaaagaaaaa gcctgtggac tatattattg ctttttggta 2760
ttagctттat ccctcaactt ttggaacatc tattctacga gtcatatcag aaaagttacc 2820
cgtgggaact gtctccaaat acatacttcc tctcaccagg acaacaacca caggatcctc 2880
tgacccattt actggtcatc aataagacag ggtcaaccat tgataacttt ttacattcac 2940
tgaggcgaca gaacatagct atagaagtgg atgcctttgg aactagaaat ggcacagatg 3000
acccatctta caatggtgct atcattgtgt caggtgatga aaaggatcac agattттcaa 3060
tagcatgtaa tacaaaacgg ctgaattgct ttcctgtcct cctggatgtc attagcaatg 3120
gactacttgg aattттttaat tcgtcagaac acattcagac tgacagaagc acatttттtg 3180
aagagcatat ggattatgag tatgggtacc gaagtaacac cttcttctgg ataccgatgg 3240
cagcctcttt cactccatac attgcaatga gcagcattgg tgactacaaa aaaaaagctc 3300
attcccagct acggatttca ggcctctacc cttctgcata ctggtttggc caagcactgg 3360
tggatgtttc cctgtacttt ttgatcctcc tgctaatgca aataatggat tatatttta 3420
gcccagagga gattatattt ataattcaaa acctgttaat tcaaatcctg tgtagtattg 3480
gctatgtctc atcttcttgtt ttcttgacat atgtgatttc attcattttt cgcaatggga 3540
gaaaaaatag tggcatttgg tcattttttct tcttaattgt ggtcatcttc tcgatagttg 3600
ctactgatct aaatgaatat ggatttctag ggctattттt tggcaccatg ttaatacctc 3660
ccttcacatt gattggctct ctattcattt tttctgagat ttctcctgat tccatggatt 3720
acttaggagc ttcagaatct gaaattgtat acctggcact gctaatacct taccttcatt 3780
ttctcatttt tcttttcatt ctgcgatgcc tagaaatgaa ctgcaggaag aaactaatga 3840
gaaaggatcc tgtgttcaga atttctccaa gaagcaacgc tatttttcca aacccagaag 3900
agcctgaagg agaggaggaa gatatccaga tggaaagaat gagaacagtg aatgctatgg 3960
                                    Page 5
```

```
ctgtgcgaga ctttgatgag acacccgtca tcattgccag ctgtctacgg aaggaatatg 4020
caggcaaaaa gaaaaattgc ttttctaaaa ggaagaaaac aattgccaca agaaatgtct 4080
cttttgtgt taaaaaaggt gaagttatag gactgttagg acacaatgga gctggtaaaa 4140
gtacaactat taagatgata actggagaca caaaaccaac tgcaggacag gtgattttga 4200
aagggagcgg tggaggggaa cccctgggct tcctgggta ctgccctcag gagaatgcgc 4260
tgtggcccaa cctgacagt aggcagcacc tggaggtgta cgctgccgtg aaaggtctca 4320
ggaaagggga cgcaatgatc gccatcacac ggttagtgga tgcgctcaag ctgcaggacc 4380
agctgaaggc tcccgtgaag accttgtcag agggaataaa gcgaaagctg cgctttgtgc 4440
tgagcatcct ggggaacccg tcagtggtgc ttctggatga gccgtcgacc gggatggacc 4500
ccgaggggca gcagcaaatg tggcaggtga ttcgggccac ctttagaaac acggagaggg 4560
gcgccctcct gaccacccac tacatggcag aggctgaggc ggtgtgtgac cgagtggcca 4620
tcatggtgtc aggaaggctg agatgtattg gttccatcca acacctgaaa agcaaatttg 4680
gcaaagacta cctgctggag atgaagctga agaacctggc acaaatggag cccctccatg 4740
cagagatcct gaggctttc ccccaggctg ctcagcagga aaggttctcc tccctgatgg 4800
tctataagtt gcctgttgag gatgtgcgac ctttatcaca ggctttcttc aaattagaga 4860
tagttaaaca gagtttcgac ctggaggagt acagcctctc acagtctacc ctggagcagg 4920
ttttcctgga gctctccaag gagcaggagc tgggtgatct tgaagaggac tttgatccct 4980
cggtgaagtg gaaactcctc ctgcaggaag agccttaaag ctccaaatac cctatatctt 5040
tctttaatcc tgtgactctt ttaaagataa tattttatag ccttaatatg ccttatatca 5100
gaggtggtac aaaatgcatt tgaaactcat gcaataatta tcctcagtag tatttcttac 5160
agtgagacaa caggcaatgt cagtgagggc gatcgtaggg cataagccta agccatacca 5220
tgcagccttt gtgccagcaa ccaaatccca tgtttcctac tgtgttaagt ttaaaaatgc 5280
atttattata gaattgtcta catttctgag gatgtcatgg agaatgctta attttctttc 5340
tctgaacttc aaaatattaa atatttctt attttttga ttaaagtata aattaagaca 5400
ccctattgac ttccgggtaa ggggagtcaa ttgattaccc agcagcacag tatttgcttt 5460
ttataattcc ctttttaaat acttgttctt aattgactgg ttttccttt ctgtcatttt 5520
tcagagttta gattgtgagt ccatgttttg tctgttgtgc ctataaagga aatttgaaat 5580
ctgtatcatt ctactataaa gacacatgca cacgtatgtt tattgcagca ctgtttacaa 5640
tagcaaagac ttggaaccaa ccaaaatacc cacaaatgat agaccggata aagaaaacgt 5700
gacacatata caccatggaa tactatgcag ccatagaaaa ggatgagttc atattcttca 5760
cagggacatg gatgaagctg gaaaccatca tcctcagcaa actaacacag gaacagaaaa 5820
ccaaacaccg catgttctca ctcataagtg ggaattgaac aatgagaata catggacaca 5880
gggaggggaa caccacaccc tggggcctgt tgggggatg ggggctaggg gagggatagc 5940
attaggagaa atacctgatg tagatgatgg gttgatgggt g                      5981
```

<210> 4
<211> 6181
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 1420
<223> n=unknown, may be a or g or c or t

<400> 4
```
aattaatttt acttaggata agtgttgtta ttattgtttt tattgttgtt ctgttagtta 60
ctcaaaactt cattctaatt gtgccctgag tttgttaaaa taccatactg tatttttgtg 120
taacatgtaa ataggcatta attttgaga aatagaaatg tttatcctta atgtattttt 180
aatttgctaa cattgatttt ttatttttctt tcctgaaata gcttatttcc taaaatgaaa 240
gaatttattc tcagatgaat aattttata tcagctattc ttatcagagc aataaacaaa 300
taccaatgat gcgctcagcc aacaattcat tacactctct gaagagtaac tggacaagga 360
gaaaaacata gggaaaaaac caacagaatt tgttggcatg ttctacacac agaccatggc 420
ttttcagaag ccaagctgaa taaaaacagt tttaaaagag gcaaccattt gtagaggagt 480
ccttgaagga ttcttcattg ttttcttgga caaaaagaga ccagtggatc caagtgcttc 540
aaatacttct ctcttatttt cttaactcta ttgctctgca atatttactt taccctgtta 600
atgaacagga caaaatggtt aaaaaagaga taagctgtcg tcaacaaatt caggctcttc 660
tgtacaagaa ttttcttaaa aaatggagaa taaaagaga gtttattgga atggacaata 720
acattgtttc tagggctata tttgtgcatc ttttcggaac acttcagagc tacccgtttt 780
cctgaacaac ctcctaaagt cctgggaagc gtggatcagt ttaatgactc tggcctggta 840
gtggcatata caccagtcag taacataaca caaaggataa tgaataagat ggccttggct 900
tcctttatga aaggaagaac agtcattggg acaccagatg aagagaccat ggatatagaa 960
cttccaaaaa aataccatga aatggtggga gttatattta gtgatacttt ctcatatcgc 1020
```
                              Page 6
```

```
ctgaagtttta attgggggata tagaatccca gttataaagg agcactctga atacacagaa 1080
cactgttggg ccatgcatgg tgaaatttt tgttacttgg caaagtactg gctaaaaggg 1140
tttgtagctt ttcaagctgc aattaatgct gcaattatag aagtcacaac aaatcattct 1200
gtaatggagg agttgacatc agttattgga ataaatatga agataccacc tttcatttct 1260
aagggagaaa ttatgaatga atggtttcat tttacttgct tagtttcttt ctcttctttt 1320
atatactttg catcattaaa tgttgcaagg gaaagaggaa aatttaagaa actgatgaca 1380
gtaatgggtc tccgagagtc agcattctgg ctctcctggn gattgacata catttgcttc 1440
atcttcatta tgtccatttt tatggctctg gtcataacat caatctcaat tgtatttcat 1500
actggcttca tggtgatatt cacactctat agcttatatg gcctttcttt gatagcattg 1560
gctttcctca tgagtgtttt aataaggaaa cctatgctcg ctggtttggc tggatttctc 1620
ttcactgtat tttggggatg tctgggattc actgtgttat acagacaact tcctttatct 1680
ttgggatggg tattaagtct tcttagccct tttgccttca ctgctggaat ggcccaggtt 1740
acacacctgg ataattactt aagtggtgtt attttttcctg atccctctgg ggattcatac 1800
aaaatgatag ccactttttt catttttggca tttgatactc ttttctattt gatattcaca 1860
ttatattttg agcgagtttt acctgataaa gatggccatg gggattctcc attatttttc 1920
cttaagtcct cattttggtc caaacatcaa aatactcatc atgaaatctt tgagaatgaa 1980
ataaatcctg agcattcctc tgatgattct tttgaaccgg tgtctccaga attccatgga 2040
aaagaagcca taagaatcag aaatgttata aaagaatata atggaaagac tggaaaaagta 2100
gaagcattgc aaggcatatt ttttgacata tatgaaggac agatcactgc aatacttggg 2160
cataatggag ctggtaaatc aacactgcta aacattctta gtggattgtc tgtttctaca 2220
gaaggatcag ccactatttta taatactcaa ctctctgaaa taactgacat ggaagaaatt 2280
agaaagaata ttggattttg tccacagttc aattttcaat ttgacttcct cactgtgaga 2340
gaaaacctca gggtatttgc taaaataaaa gggattcagc caaaggaagt ggaacaagag 2400
gtaaaaagaa ttataatgga attagacatg caaagcattc aagacattat tgctaaaaaa 2460
ttaagtggtg ggcagaagag aaaaactaaca ctagggattg ccatcttagg agatcctcag 2520
gttttgctgc tagatgaacc aactgctgga ttggatccct tttcaagaca ccgagtgtgg 2580
agcctcctga aggagcataa agtagaccga cttatcctct tcagtacccca attcatggat 2640
gaggctgaca tcttggctga taggaaaagta tttctgtcta atgggaagtt gaaatgtgca 2700
ggatcatctt tgtttctgaa gcgaaagtgg ggtattggat atcatttaag tttacacagg 2760
aatgaaatgt gtgacacaga aaaaatcaca tcccttatta agcagcacat tcctgatgcc 2820
aagttaacaa cagaaagtga agaaaaactt gtatatagtt tgccttttgga aaaaacgaac 2880
aaatttccag atctttacag tgaccttgat aagtgttctg accagggcat aaggaattat 2940
gctgtttcag tgacatctct gaatgaagta ttcttgaacc tagaaggaaa atcagcaatt 3000
gatgaaccag attttgacat tgggaaacaa gagaaaatac atgtgacaag aaatactgga 3060
gatgagtctg aaatggaaca ggttctttgt tctcttcctg aaacaagaaa ggctgtcagt 3120
agtgcagctc tctggagacg acaaatctat gcagtggcaa cacttcgctt cttaaagtta 3180
aggcgtgaaa ggagagctct tttgtgtttg ttactagtac ttggaattgc ttttatcccc 3240
atcattctag agaagataat gtataaagta actcgtgaaa ctcattgttg ggagtttttca 3300
cccagtatgt attttccttc tctggaacaa atcccgaaga cgcctcttac cagcctgtta 3360
atcgttaata atacaggatc aaatattgaa gacctcgtgc attcactgaa gtgtcaggat 3420
atagtttttgg aaatagatga ctttagaaac agaaatggct cagatgatcc ctcctacaat 3480
ggagccatca tagtgtctgg tgaccagaag gattacagat tttctgttgc gtgtaatacc 3540
aagaaattga attgttttcc tgttcttatg ggaattgtta gcaatgccct tatgggaatt 3600
tttaacttca cggagcttat tcaaacggag agcacttcat tttctcgtga tgacatagtg 3660
ctggatcttg gttttataga tgggtccata ttttttgttgt tgatcacaaa ctgcgtttct 3720
ccttttatcg gcatgagcag catcagcgat tataaaaaaa atgttcaatc ccagttatgg 3780
atttcaggcc tctggccttc agcatactgg tgtggacagg ctctggtgga cattccatta 3840
tacttcttga ttctcttttc aatacattta atttactact tcatatttct gggattccag 3900
ctttcatggg aactcatgtt tgtttttggtg gtatgcataa ttggttgtgc agtttctctt 3960
atattcctca catatgtgct ttcattcatc tttcgcaagt ggagaaaaaaa taatggcttt 4020
tggtcttttg gcttttttat tatcttaata tgtgtatcca caattatggt atcaactcaa 4080
tatgaaaaac tcaacttaat tttgtgcatg attttcatac cttccttcac tttgctgggg 4140
tatgtcatgt tattgatcca gctcgacttt atgagaaact tggacagtct ggacaataga 4200
ataaatgaag tcaataaaac cattcttttta acaaccttaa taccatacct tcagagtgtt 4260
attttcctttt ttgtcataag gtgtctggaa atgaagtatg gaaatgaaaat aatgaataaa 4320
gacccagttt tcagaatctc tccacggagt agagaaactc atcccaatcc ggaagagccc 4380
gaagaagaag atgaagatgt tcaagctgaa agagtccaag cagcaaatgc actcactgct 4440
ccaaacttgg aggaggaacc agtcataact gcaagctgtt tacacaagga atattatgag 4500
acaaagaaaa gttgctttttc aacaagaaag aagaaaatag ccatcagaaa tgtttccttt 4560
tgtgttaaaa aaggtgaagt tttgggatta ctaggacaca atggagctgg taaaagtact 4620
tccattaaaa tgataactgg gtgcacaaag ccaactgcag gagtggtggt gttacaaggc 4680
agcagagcat cagtaaggca acagcatgac aacagcctca agttcttggg gtactgccct 4740
caggagaact cactgtggcc caagcttaca atgaaagagc acttggagtt gtatgcagct 4800
gtgaaaggac tgggcaaaga agatgctgct ctcagtattt cacgattggt ggaagctctt 4860
```
Page 7

```
aagctccagg aacaacttaa ggctcctgtg aaaactctat cagagggaat aaagagaaag 4920
ctgtgctttg tgctgagcat cctgggggaac ccatcagtgg tgcttctaga tgagccgttc 4980
accgggatgg accccgaggg gcagcagcaa atgtggcaga tacttcaggc taccgttaaa 5040
aacaaggaga ggggcaccct cttgaccacc cattacatgt cagaggctga ggctgtgtgt 5100
gaccgtatgg ccatgatggt gtcaggaacg ctaaggtgta ttggttccat tcaacatctg 5160
aaaaacaagt ttggtagaga ttatttacta gaaataaaaa tgaaagaacc tacccaggtg 5220
gaagctctcc acacagagat tttgaagctt ttcccacagg ctgcttggca ggaaagatat 5280
tcctctttaa tggcgtataa gttacctgtg gaggatgtcc accctctatc tcgggccttt 5340
ttcaagttag aggcgatgaa acagaccttc aacctggagg aatacagcct ctctcaggct 5400
accttggagc aggtattctt agaactctgt aaagagcagg agctgggaaa tgttgatgat 5460
aaaattgata caacagttga atggaaactt ctcccacagg aagacccitta aaatgaagaa 5520
cctcctaaca ttcaatttta ggtcctacta cattgttagt ttccataatt ctacaagaat 5580
gtttcctttt acttcagtta acaaaagaaa acatttaata aacattcaat aatgattaca 5640
gtttcattt ttaaaaattt aggatgaagg aaacaaggaa atatagggaa aagtagtaga 5700
caaaattaac aaaatcagac atgttattca tccccaacat gggtctattt tgtgcttaaa 5760
aataatttaa aaatcataca atattaggtt ggttttcggt tattatcaat aaagctaaca 5820
ctgagaacat tttacaaata aaaatatgag ttttttagcc tgaacttcaa atgtatcagc 5880
tatttttaaa cattatttac tcggattcta atttaatgtg acattgacta taagaaggtc 5940
tgataaactg atgaaatggc acagcataac atttaattat aatgacattc tgattataaa 6000
ataaatgcat gtgaatttta gtacatattg aagttatatg gaagaagata gccataatct 6060
gtaagaaagt accgcagtta atattttctt tagccaactt atattcaatg tatttttat 6120
ggatccttt tcaaaggtag tatcagtagg catagtcatt ttctgtatct tttcacctca 6180
c                                                                  6181


<210> 5
<211> 1642
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 1147
<223> Xaa=unknown, may be any amino acid

<400> 5
Met Ser Thr Ala Ile Arg Glu Val Gly Val Trp Arg Gln Thr Arg Thr
  1               5                  10                  15

Leu Leu Leu Lys Asn Tyr Leu Ile Lys Cys Arg Thr Lys Lys Ser Ser
             20                  25                  30

Val Gln Glu Ile Leu Phe Pro Leu Phe Phe Leu Phe Trp Leu Ile Leu
         35                  40                  45

Ile Ser Met Met His Pro Asn Lys Lys Tyr Glu Glu Val Pro Asn Ile
     50                  55                  60

Glu Leu Asn Pro Met Asp Lys Phe Thr Leu Ser Asn Leu Ile Leu Gly
 65                  70                  75                  80

Tyr Thr Pro Val Thr Asn Ile Thr Ser Ser Ile Met Gln Lys Val Ser
                 85                  90                  95

Thr Asp His Leu Pro Asp Val Ile Ile Thr Glu Glu Tyr Thr Asn Glu
            100                 105                 110

Lys Glu Met Leu Thr Ser Ser Leu Ser Lys Pro Ser Asn Phe Val Gly
        115                 120                 125

Val Val Phe Lys Asp Ser Met Ser Tyr Glu Leu Arg Phe Phe Pro Asp
    130                 135                 140

Met Ile Pro Val Ser Ser Ile Tyr Met Asp Ser Arg Ala Gly Cys Ser
                            Page 8
```

```
         145                     150                     155                     160

Lys Ser Cys Glu Ala Ala Gln Tyr Trp Ser Ser Gly Phe Thr Val Leu
            165             170                 175

Gln Ala Ser Ile Asp Ala Ala Ile Ile Gln Leu Lys Thr Asn Val Ser
            180             185                 190

Leu Trp Lys Glu Leu Glu Ser Thr Lys Ala Val Ile Met Gly Glu Thr
            195             200                 205

Ala Val Val Glu Ile Asp Thr Phe Pro Arg Gly Val Ile Leu Ile Tyr
    210             215                 220

Leu Val Ile Ala Phe Ser Pro Phe Gly Tyr Phe Leu Ala Ile His Ile
225             230                 235                 240

Val Ala Glu Lys Glu Lys Lys Ile Lys Glu Phe Leu Lys Ile Met Gly
            245             250                 255

Leu His Asp Thr Ala Phe Trp Leu Ser Trp Val Leu Leu Tyr Thr Ser
            260             265                 270

Leu Ile Phe Leu Met Ser Leu Leu Met Ala Val Ile Ala Thr Ala Ser
            275             280                 285

Leu Leu Phe Pro Gln Ser Ser Ser Ile Val Ile Phe Leu Leu Phe Phe
    290             295                 300

Leu Tyr Gly Leu Ser Ser Val Phe Phe Ala Leu Met Leu Thr Pro Leu
305             310                 315                 320

Phe Lys Lys Ser Lys His Val Gly Ile Val Glu Phe Phe Val Thr Val
            325             330                 335

Ala Phe Gly Phe Ile Gly Leu Met Ile Ile Leu Ile Glu Ser Phe Pro
            340             345                 350

Lys Ser Leu Val Trp Leu Phe Ser Pro Phe Cys His Cys Thr Phe Val
            355             360                 365

Ile Gly Ile Ala Gln Val Met His Leu Glu Asp Phe Asn Glu Gly Ala
    370             375                 380

Ser Phe Ser Asn Leu Thr Ala Gly Pro Tyr Pro Leu Ile Ile Thr Ile
385             390                 395                 400

Ile Met Leu Thr Leu Asn Ser Ile Phe Tyr Val Leu Leu Ala Val Tyr
            405             410                 415

Leu Asp Gln Val Ile Pro Gly Glu Phe Gly Leu Arg Arg Ser Ser Leu
            420             425                 430

Tyr Phe Leu Lys Pro Ser Tyr Trp Ser Lys Ser Lys Arg Asn Tyr Glu
            435             440                 445

Glu Leu Ser Glu Gly Asn Val Asn Gly Asn Ile Ser Phe Ser Glu Ile
    450             455                 460

Ile Glu Pro Val Ser Ser Glu Phe Val Gly Lys Glu Ala Ile Arg Ile
465             470                 475                 480

Ser Gly Ile Gln Lys Thr Tyr Arg Lys Lys Gly Glu Asn Val Glu Ala
            485             490                 495
                              Page 9
```

Leu Arg Asn Leu Ser Phe Asp Ile Tyr Glu Gly Gln Ile Thr Ala Leu
        500   505   510

Leu Gly His Ser Gly Thr Gly Lys Ser Thr Leu Met Asn Ile Leu Cys
        515   520   525

Gly Leu Cys Pro Pro Ser Asp Gly Phe Ala Ser Ile Tyr Gly His Arg
        530   535   540

Val Ser Glu Ile Asp Glu Met Phe Glu Ala Arg Lys Met Ile Gly Ile
545   550   555   560

Cys Pro Gln Leu Asp Ile His Phe Asp Val Leu Thr Val Glu Glu Asn
                565   570   575

Leu Ser Ile Leu Ala Ser Ile Lys Gly Ile Pro Ala Asn Asn Ile Ile
        580   585   590

Gln Glu Val Gln Lys Val Leu Leu Asp Leu Asp Met Gln Thr Ile Lys
        595   600   605

Asp Asn Gln Ala Lys Lys Leu Ser Gly Gly Gln Lys Arg Lys Leu Ser
610   615   620

Leu Gly Ile Ala Val Leu Gly Asn Pro Lys Ile Leu Leu Leu Asp Glu
625   630   635   640

Pro Thr Ala Gly Met Asp Pro Cys Ser Arg His Ile Val Trp Asn Leu
                645   650   655

Leu Lys Tyr Arg Lys Ala Asn Arg Val Thr Val Phe Ser Thr His Phe
                660   665   670

Met Asp Glu Ala Asp Ile Leu Ala Asp Arg Lys Ala Val Ile Ser Gln
        675   680   685

Gly Met Leu Lys Cys Val Gly Ser Ser Met Phe Leu Lys Ser Lys Trp
        690   695   700

Gly Ile Gly Tyr Arg Leu Ser Met Tyr Ile Asp Lys Tyr Cys Ala Thr
705   710   715   720

Glu Ser Leu Ser Ser Leu Val Lys Gln His Ile Pro Gly Ala Thr Leu
                725   730   735

Leu Gln Gln Asn Asp Gln Gln Leu Val Tyr Ser Leu Pro Phe Lys Asp
                740   745   750

Met Asp Lys Phe Ser Gly Leu Phe Ser Ala Leu Asp Ser His Ser Asn
        755   760   765

Leu Gly Val Ile Ser Tyr Gly Val Ser Met Thr Thr Leu Glu Asp Val
        770   775   780

Phe Leu Lys Leu Glu Val Glu Ala Glu Ile Asp Gln Ala Asp Tyr Ser
785   790   795   800

Val Phe Thr Gln Gln Pro Leu Glu Glu Glu Met Asp Ser Lys Ser Phe
                805   810   815

Asp Glu Met Glu Gln Ser Leu Leu Ile Leu Ser Glu Thr Lys Ala Ser
        820   825   830

Page 10

Leu Val Ser Thr Met Ser Leu Trp Lys Gln Gln Met Tyr Thr Ile Ala
    835   840   845

Lys Phe His Phe Phe Thr Leu Lys Arg Glu Ser Lys Ser Val Arg Ser
    850   855   860

Val Leu Leu Leu Leu Leu Ile Phe Phe Thr Val Gln Ile Phe Met Phe
865   870   875   880

Leu Val His His Ser Phe Lys Asn Ala Val Val Pro Ile Lys Leu Val
                885   890   895

Pro Asp Leu Tyr Phe Leu Lys Pro Gly Asp Lys Pro His Lys Tyr Lys
            900   905   910

Thr Ser Leu Leu Leu Gln Asn Ser Ala Asp Ser Asp Ile Ser Asp Leu
        915   920   925

Ile Ser Phe Phe Thr Ser Gln Asn Ile Met Val Thr Met Ile Asn Asp
    930   935   940

Ser Asp Tyr Val Ser Val Ala Pro His Ser Ala Ala Leu Asn Val Met
945   950   955   960

His Ser Glu Lys Asp Tyr Val Phe Ala Ala Val Phe Asn Ser Thr Met
            965   970   975

Val Tyr Ser Leu Pro Ile Leu Val Asn Ile Ile Ser Asn Tyr Tyr Leu
            980   985   990

Tyr His Leu Asn Val Thr Glu Thr Ile Gln Ile Trp Ser Thr Pro Phe
        995   1000   1005

Phe Gln Glu Ile Thr Asp Ile Val Phe Lys Ile Glu Leu Tyr Phe Gln
    1010   1015   1020

Ala Ala Leu Leu Gly Ile Ile Val Thr Ala Met Pro Pro Tyr Phe Ala
1025   1030   1035   1040

Met Glu Asn Ala Glu Asn His Lys Ile Lys Ala Tyr Thr Gln Leu Lys
            1045   1050   1055

Leu Ser Gly Leu Leu Pro Ser Ala Tyr Trp Ile Gly Gln Ala Val Val
            1060   1065   1070

Asp Ile Pro Leu Phe Phe Ile Ile Leu Ile Leu Met Leu Gly Ser Leu
        1075   1080   1085

Leu Ala Phe His Tyr Gly Leu Tyr Phe Tyr Thr Val Lys Phe Leu Ala
    1090   1095   1100

Val Val Phe Cys Leu Ile Gly Tyr Val Pro Ser Val Ile Leu Phe Thr
1105   1110   1115   1120

Tyr Ile Ala Ser Phe Thr Phe Lys Lys Ile Leu Asn Thr Lys Glu Phe
            1125   1130   1135

Trp Ser Phe Ile Tyr Ser Val Ala Ala Leu Xaa Cys Ile Ala Ile Thr
            1140   1145   1150

Glu Ile Thr Phe Phe Met Gly Tyr Thr Ile Ala Thr Ile Leu His Tyr
        1155   1160   1165

Ala Phe Cys Ile Ile Ile Pro Ile Tyr Pro Leu Leu Gly Cys Leu Ile
                            Page 11

Ser Phe Ile Lys Ile Ser Trp Lys Asn Val Arg Lys Asn Val Asp Thr
1185   1190   1195   1200

Tyr Asn Pro Trp Asp Arg Leu Ser Val Ala Val Ile Ser Pro Tyr Leu
                   1205   1210   1215

Gln Cys Val Leu Trp Ile Phe Leu Leu Gln Tyr Tyr Glu Lys Lys Tyr
              1220   1225   1230

Gly Gly Arg Ser Ile Arg Lys Asp Pro Phe Phe Arg Asn Leu Ser Thr
             1235   1240   1245

Lys Ser Lys Asn Arg Lys Leu Pro Glu Pro Pro Asp Asn Glu Asp Glu
        1250   1255   1260

Asp Glu Asp Val Lys Ala Glu Arg Leu Lys Val Lys Glu Leu Met Gly
1265   1270   1275   1280

Cys Gln Cys Cys Glu Glu Lys Pro Ser Ile Met Val Ser Asn Leu His
                   1285   1290   1295

Lys Glu Tyr Asp Asp Lys Lys Asp Phe Leu Leu Ser Arg Lys Val Lys
              1300   1305   1310

Lys Val Ala Thr Lys Tyr Ile Ser Phe Cys Val Lys Lys Gly Glu Ile
         1315   1320   1325

Leu Gly Leu Leu Gly Pro Asn Gly Ala Gly Lys Ser Thr Ile Ile Asn
    1330   1335   1340

Ile Leu Val Gly Asp Ile Glu Pro Thr Ser Gly Gln Val Phe Leu Gly
1345   1350   1355   1360

Asp Tyr Ser Ser Glu Thr Ser Glu Asp Asp Asp Ser Leu Lys Cys Met
                   1365   1370   1375

Gly Tyr Cys Pro Gln Ile Asn Pro Leu Trp Pro Asp Thr Thr Leu Gln
              1380   1385   1390

Glu His Phe Glu Ile Tyr Gly Ala Val Lys Gly Met Ser Ala Ser Asp
         1395   1400   1405

Met Lys Glu Val Ile Ser Arg Ile Thr His Ala Leu Asp Leu Lys Glu
    1410   1415   1420

His Leu Gln Lys Thr Val Lys Lys Leu Pro Ala Gly Ile Lys Arg Lys
1425   1430   1435   1440

Leu Cys Phe Ala Leu Ser Met Leu Gly Asn Pro Gln Ile Thr Leu Leu
              1445   1450   1455

Asp Glu Pro Ser Thr Gly Met Asp Pro Lys Ala Lys Gln His Met Trp
         1460   1465   1470

Arg Ala Ile Arg Thr Ala Phe Lys Asn Arg Lys Arg Ala Ala Ile Leu
        1475   1480   1485

Thr Thr His Tyr Met Glu Glu Ala Glu Ala Val Cys Asp Arg Val Ala
   1490   1495   1500

Ile Met Val Ser Gly Gln Leu Arg Cys Ile Gly Thr Val Gln His Leu
1505   1510   1515   1520

Lys Ser Lys Phe Gly Lys Gly Tyr Phe Leu Glu Ile Lys Leu Lys Asp
          1525   1530   1535

Trp Ile Glu Asn Leu Glu Val Asp Arg Leu Gln Arg Glu Ile Gln Tyr
              1540   1545   1550

Ile Phe Pro Asn Ala Ser Arg Gln Glu Ser Phe Ser Ser Ile Leu Ala
        1555   1560   1565

Tyr Lys Ile Pro Lys Glu Asp Val Gln Ser Leu Ser Gln Ser Phe Phe
    1570   1575   1580

Lys Leu Glu Glu Ala Lys His Ala Phe Ala Ile Glu Glu Tyr Ser Phe
1585   1590   1595   1600

Ser Gln Ala Thr Leu Glu Gln Val Phe Val Glu Leu Thr Lys Glu Gln
              1605   1610   1615

Glu Glu Glu Asp Asn Ser Cys Gly Thr Leu Asn Ser Thr Leu Trp Trp
              1620   1625   1630

Glu Arg Thr Gln Glu Asp Arg Val Val Phe
        1635   1640

<210> 6
<211> 1617
<212> PRT
<213> Homo sapiens

<400> 6
Met Asn Met Lys Gln Lys Ser Val Tyr Gln Gln Thr Lys Ala Leu Leu
    1   5   10   15

Cys Lys Asn Phe Leu Lys Lys Trp Arg Met Lys Arg Glu Ser Leu Leu
                20   25   30

Glu Trp Gly Leu Ser Ile Leu Leu Gly Leu Cys Ile Ala Leu Phe Ser
            35   40   45

Ser Ser Met Arg Asn Val Gln Phe Pro Gly Met Ala Pro Gln Asn Leu
        50   55   60

Gly Arg Val Asp Lys Phe Asn Ser Ser Ser Leu Met Val Val Tyr Thr
65   70   75   80

Pro Ile Ser Asn Leu Thr Gln Gln Ile Met Asn Lys Thr Ala Leu Ala
                85   90   95

Pro Leu Leu Lys Gly Thr Ser Val Ile Gly Ala Pro Asn Lys Thr His
            100   105   110

Met Asp Glu Ile Leu Leu Glu Asn Leu Pro Tyr Ala Met Gly Ile Ile
        115   120   125

Phe Asn Glu Thr Phe Ser Tyr Lys Leu Ile Phe Phe Gln Gly Tyr Asn
    130   135   140

Ser Pro Leu Trp Lys Glu Asp Phe Ser Ala His Cys Trp Asp Gly Tyr
145   150   155   160

Gly Glu Phe Ser Cys Thr Leu Thr Lys Tyr Trp Asn Arg Gly Phe Val
                            Page 13

```
              165                    170                    175
Ala Leu Gln Thr Ala Ile Asn Thr Ala Ile Ile Glu Ile Thr Thr Asn
            180                185                190

His Pro Val Met Glu Glu Leu Met Ser Val Thr Ala Ile Thr Met Lys
        195             200             205

Thr Leu Pro Phe Ile Thr Lys Asn Leu Leu His Asn Glu Met Phe Ile
    210             215             220

Leu Phe Phe Leu Leu His Phe Ser Pro Leu Val Tyr Phe Ile Ser Leu
225             230             235             240

Asn Val Thr Lys Glu Arg Lys Lys Ser Lys Asn Leu Met Lys Met Met
            245             250             255

Gly Leu Gln Asp Ser Ala Phe Trp Leu Ser Trp Gly Leu Ile Tyr Ala
            260             265             270

Gly Phe Ile Phe Ile Ile Ser Ile Phe Ile Thr Ile Ile Ile Thr Phe
            275             280             285

Thr Gln Ile Ile Val Met Thr Gly Phe Met Val Ile Phe Ile Leu Phe
    290             295             300

Phe Leu Tyr Gly Leu Ser Leu Val Ala Leu Val Phe Leu Met Ser Val
305             310             315             320

Leu Leu Lys Lys Ala Val Leu Thr Asn Leu Val Val Phe Leu Leu Thr
            325             330             335

Leu Phe Trp Gly Cys Leu Gly Phe Thr Val Phe Tyr Glu Gln Leu Pro
            340             345             350

Ser Ser Leu Glu Trp Ile Leu Asn Ile Cys Ser Pro Phe Ala Phe Thr
            355             360             365

Thr Gly Met Ile Gln Ile Ile Lys Leu Asp Tyr Asn Leu Asn Gly Val
    370             375             380

Ile Phe Pro Asp Pro Ser Gly Asp Ser Tyr Thr Met Ile Ala Thr Phe
385             390             395             400

Ser Met Leu Leu Leu Asp Gly Leu Ile Tyr Leu Leu Leu Ala Leu Tyr
            405             410             415

Phe Asp Lys Ile Leu Pro Tyr Gly Asp Glu Arg His Tyr Ser Pro Leu
            420             425             430

Phe Phe Leu Asn Ser Ser Ser Cys Phe Gln His Gln Arg Thr Asn Ala
            435             440             445

Lys Val Ile Glu Lys Glu Ile Asp Ala Glu His Pro Ser Asp Asp Tyr
    450             455             460

Phe Glu Pro Val Ala Pro Glu Phe Gln Gly Lys Glu Ala Ile Arg Ile
465             470             475             480

Arg Asn Val Lys Lys Glu Tyr Lys Gly Lys Ser Gly Lys Val Glu Ala
            485             490             495

Leu Lys Gly Leu Leu Phe Asp Ile Tyr Glu Gly Gln Ile Thr Ala Ile
            500             505             510
                        Page 14
```

```
Leu Gly His Ser Gly Ala Gly Lys Ser Ser Leu Leu Asn Ile Leu Asn
        515             520             525

Gly Leu Ser Val Pro Thr Glu Gly Ser Val Thr Ile Tyr Asn Lys Asn
        530             535             540

Leu Ser Glu Met Gln Asp Leu Glu Glu Ile Arg Lys Ile Thr Gly Val
545             550         .       555             560

Cys Pro Gln Phe Asn Val Gln Phe Asp Ile Leu Thr Val Lys Glu Asn
            565             570             575

Leu Ser Leu Phe Ala Lys Ile Lys Gly Ile His Leu Lys Glu Val Glu
        580             585             590

Gln Glu Val Gln Arg Ile Leu Leu Glu Leu Asp Met Gln Asn Ile Gln
        595             600             605

Asp Asn Leu Ala Lys His Leu Ser Glu Gly Gln Lys Arg Lys Leu Thr
    610             615             620

Phe Gly Ile Thr Ile Leu Gly Asp Pro Gln Ile Leu Leu Leu Asp Glu
625             630             635             640

Pro Thr Thr Gly Leu Asp Pro Phe Ser Arg Asp Gln Val Trp Ser Leu
            645             650             655

Leu Arg Glu Arg Arg Ala Asp His Val Ile Leu Phe Ser Thr Gln Ser
            660             665             670

Met Asp Glu Ala Asp Ile Leu Ala Asp Arg Lys Val Ile Met Ser Asn
        675             680             685

Gly Arg Leu Lys Cys Ala Gly Ser Ser Met Phe Leu Lys Arg Arg Trp
    690             695             700

Gly Leu Gly Tyr His Leu Ser Leu His Arg Asn Glu Ile Cys Asn Pro
705             710             715             720

Glu Gln Ile Thr Ser Phe Ile Thr His His Ile Pro Asp Ala Lys Leu
            725             730             735

Lys Thr Glu Asn Lys Glu Lys Leu Val Tyr Thr Leu Pro Leu Glu Arg
        740             745             750

Thr Asn Thr Phe Pro Asp Leu Phe Ser Asp Leu Asp Lys Cys Ser Asp
        755             760             765

Gln Gly Val Thr Gly Tyr Asp Ile Ser Met Ser Thr Leu Asn Glu Val
    770             775             780

Phe Met Lys Leu Glu Gly Gln Ser Thr Ile Glu Gln Asp Phe Glu Gln
785             790             795             800

Val Glu Met Ile Arg Asp Ser Glu Ser Leu Asn Glu Met Glu Leu Ala
            805             810             815

His Ser Ser Phe Ser Glu Met Gln Thr Ala Val Ser Asp Met Gly Leu
            820             825             830

Trp Arg Met Gln Val Phe Ala Met Ala Arg Leu Arg Phe Leu Lys Leu
        835             840             845
```

Lys Arg Gln Thr Lys Val Leu Leu Thr Leu Leu Leu Val Phe Gly Ile
    850   855   860

Ala Ile Phe Pro Leu Ile Val Glu Asn Ile Ile Tyr Ala Met Leu Asn
865   870   875   880

Glu Lys Ile Asp Trp Glu Phe Lys Asn Glu Leu Tyr Phe Leu Ser Pro
              885   890   895

Gly Gln Leu Pro Gln Glu Pro Arg Thr Ser Leu Leu Ile Ile Asn Asn
              900   905   910

Thr Glu Ser Asn Ile Glu Asp Phe Ile Lys Ser Leu Lys His Gln Asn
              915   920   925

Ile Leu Leu Glu Val Asp Asp Phe Glu Asn Arg Asn Gly Thr Asp Gly
    930   935   940

Leu Ser Tyr Asn Gly Ala Ile Ile Val Ser Gly Lys Gln Lys Asp Tyr
945   950   955   960

Arg Phe Ser Val Val Cys Asn Thr Lys Arg Leu His Cys Phe Pro Ile
              965   970   975

Leu Met Asn Ile Ile Ser Asn Gly Leu Leu Gln Met Phe Asn His Thr
              980   985   990

Gln His Ile Arg Ile Glu Ser Ser Pro Phe Pro Leu Ser His Ile Gly
    995   1000   1005

Leu Trp Thr Gly Leu Pro Asp Gly Ser Phe Phe Leu Phe Leu Val Leu
    1010   1015   1020

Cys Ser Ile Ser Pro Tyr Ile Thr Met Gly Ser Ile Ser Asp Tyr Lys
1025   1030   1035   1040

Lys Asn Ala Lys Ser Gln Leu Trp Ile Ser Gly Leu Tyr Thr Ser Ala
              1045   1050   1055

Tyr Trp Cys Gly Gln Ala Leu Val Asp Val Ser Phe Phe Ile Leu Ile
              1060   1065   1070

Leu Leu Leu Met Tyr Leu Ile Phe Tyr Ile Glu Asn Met Gln Tyr Leu
              1075   1080   1085

Leu Ile Thr Ser Gln Ile Val Phe Ala Leu Val Ile Val Thr Pro Gly
    1090   1095   1100

Tyr Ala Ala Ser Leu Val Phe Phe Ile Tyr Met Ile Ser Phe Ile Phe
1105   1110   1115   1120

Arg Lys Arg Arg Lys Asn Ser Gly Leu Trp Ser Phe Tyr Phe Phe Phe
              1125   1130   1135

Ala Ser Thr Ile Met Phe Ser Ile Thr Leu Ile Asn His Phe Asp Leu
              1140   1145   1150

Ser Ile Leu Ile Thr Thr Met Val Leu Val Pro Ser Tyr Thr Leu Leu
    1155   1160   1165

Gly Phe Lys Thr Phe Leu Glu Val Arg Asp Gln Glu His Tyr Arg Glu
    1170   1175   1180

Phe Pro Glu Ala Asn Phe Glu Leu Ser Ala Thr Asp Phe Leu Val Cys
                      Page 16

Phe Ile Pro Tyr Phe Gln Thr Leu Leu Phe Val Phe Val Leu Arg Cys
1205 1210 1215

Met Glu Leu Lys Cys Gly Lys Lys Arg Met Arg Lys Asp Pro Val Phe
1220 1225 1230

Arg Ile Ser Pro Gln Ser Arg Asp Ala Lys Pro Asn Pro Glu Glu Pro
1235 1240 1245

Ile Asp Glu Asp Glu Asp Ile Gln Thr Glu Arg Ile Arg Thr Ala Thr
1250 1255 1260

Ala Leu Thr Thr Ser Ile Leu Asp Glu Lys Pro Val Ile Ile Ala Ser
1265 1270 1275 1280

Cys Leu His Lys Glu Tyr Ala Gly Gln Lys Lys Ser Cys Phe Ser Lys
1285 1290 1295

Arg Lys Lys Lys Ile Ala Ala Arg Asn Ile Ser Phe Cys Val Gln Glu
1300 1305 1310

Gly Glu Ile Leu Gly Leu Leu Gly Pro Ser Gly Ala Gly Lys Ser Ser
1315 1320 1325

Ser Ile Arg Met Ile Ser Gly Ile Thr Lys Pro Thr Ala Gly Glu Val
1330 1335 1340

Glu Leu Lys Gly Cys Ser Ser Val Leu Gly His Leu Gly Tyr Cys Pro
1345 1350 1355 1360

Gln Glu Asn Val Leu Trp Pro Met Leu Thr Leu Arg Glu His Leu Glu
1365 1370 1375

Val Tyr Ala Ala Val Lys Gly Leu Arg Lys Ala Asp Ala Arg Leu Ala
1380 1385 1390

Ile Ala Arg Leu Val Ser Ala Phe Lys Leu His Glu Gln Leu Asn Val
1395 1400 1405

Pro Val Gln Lys Leu Thr Ala Gly Ile Thr Arg Lys Leu Cys Phe Val
1410 1415 1420

Leu Ser Leu Leu Gly Asn Ser Pro Val Leu Leu Asp Glu Pro Ser
1425 1430 1435 1440

Thr Gly Ile Asp Pro Thr Gly Gln Gln Gln Met Trp Gln Ala Ile Gln
1445 1450 1455

Ala Val Val Lys Asn Thr Glu Arg Gly Val Leu Leu Thr Thr His Asn
1460 1465 1470

Leu Ala Glu Ala Glu Ala Leu Cys Asp Arg Val Ala Ile Met Val Ser
1475 1480 1485

Gly Arg Leu Arg Cys Ile Gly Ser Ile Gln His Leu Lys Asn Lys Leu
1490 1495 1500

Gly Lys Asp Tyr Ile Leu Glu Leu Lys Val Lys Glu Thr Ser Gln Val
1505 1510 1515 1520

Thr Leu Val His Thr Glu Ile Leu Lys Leu Phe Pro Gln Ala Ala Gly
1525 1530 1535

Gln Glu Arg Tyr Ser Ser Leu Leu Thr Tyr Lys Leu Pro Val Ala Asp
            1540   1545   1550

Val Tyr Pro Leu Ser Gln Thr Phe His Lys Leu Glu Ala Val Lys His
            1555   1560   1565

Asn Phe Asn Leu Glu Glu Tyr Ser Leu Ser Gln Cys Thr Leu Glu Lys
        1570   1575   1580

Val Phe Leu Glu Leu Ser Lys Glu Gln Glu Val Gly Asn Phe Asp Glu
1585   1590   1595   1600

Glu Ile Asp Thr Thr Met Arg Trp Lys Leu Leu Pro His Ser Asp Glu
            1605   1610   1615

Pro

<210> 7
<211> 1624
<212> PRT
<213> Homo sapiens

<400> 7
Met Ser Lys Arg Arg Met Ser Val Gly Gln Gln Thr Trp Ala Leu Leu
    1   5   10   15

Cys Lys Asn Cys Leu Lys Lys Trp Arg Met Lys Arg Gln Thr Leu Leu
            20   25   30

Glu Trp Leu Phe Ser Phe Leu Leu Val Leu Phe Leu Tyr Leu Phe Phe
            35   40   45

Ser Asn Leu His Gln Val His Asp Thr Pro Gln Met Ser Ser Met Asp
        50   55   60

Leu Gly Arg Val Asp Ser Phe Asn Asp Thr Asn Tyr Val Ile Ala Phe
    65   70   75   80

Ala Pro Glu Ser Lys Thr Thr Gln Glu Ile Met Asn Lys Val Ala Ser
                85   90   95

Ala Pro Phe Leu Lys Gly Arg Thr Ile Met Gly Trp Pro Asp Glu Lys
            100   105   110

Ser Met Asp Glu Leu Asp Leu Asn Tyr Ser Ile Asp Ala Val Arg Val
        115   120   125

Ile Phe Thr Asp Thr Phe Ser Tyr His Leu Lys Phe Ser Trp Gly His
    130   135   140

Arg Ile Pro Met Met Lys Glu His Arg Asp His Ser Ala His Cys Gln
145   150   155   160

Ala Val Asn Glu Lys Met Lys Cys Glu Gly Ser Glu Phe Trp Glu Lys
            165   170   175

Gly Phe Val Ala Phe Gln Ala Ala Ile Asn Ala Ala Ile Ile Glu Ile
            180   185   190

Ala Thr Asn His Ser Val Met Glu Gln Leu Met Ser Val Thr Gly Val
                                Page 18

His Met Lys Ile Leu Pro Phe Val Ala Gln Gly Gly Val Ala Thr Asp
210　　　　　　　215　　　　　　　220

Phe Phe Ile Phe Phe Cys Ile Ile Ser Phe Ser Thr Phe Ile Tyr Tyr
225　　　　　　　230　　　　　　　235　　　　　　　240

Val Ser Val Asn Val Thr Gln Glu Arg Gln Tyr Ile Thr Ser Leu Met
　　　　　　　245　　　　　　　250　　　　　　　255

Thr Met Met Gly Leu Arg Glu Ser Ala Phe Trp Leu Ser Trp Gly Leu
　　　　　260　　　　　　　265　　　　　　　270

Met Tyr Ala Gly Phe Ile Leu Ile Met Ala Thr Leu Met Ala Leu Ile
　　　275　　　　　　　280　　　　　　　285

Val Lys Ser Ala Gln Ile Val Val Leu Thr Gly Phe Val Met Val Phe
　　　290　　　　　　　295　　　　　　　300

Thr Leu Phe Leu Leu Tyr Gly Leu Ser Leu Ile Thr Leu Ala Phe Leu
305　　　　　　　310　　　　　　　315　　　　　　　320

Met Ser Val Leu Ile Lys Lys Pro Phe Leu Thr Gly Leu Val Val Phe
　　　　　　　325　　　　　　　330　　　　　　　335

Leu Leu Ile Val Phe Trp Gly Ile Leu Gly Phe Pro Ala Leu Tyr Thr
　　　　　340　　　　　　　345　　　　　　　350

His Leu Pro Ala Phe Leu Glu Trp Thr Leu Cys Leu Leu Ser Pro Phe
　　　355　　　　　　　360　　　　　　　365

Ala Phe Thr Val Gly Met Ala Gln Leu Ile His Leu Asp Tyr Asp Val
　　　370　　　　　　　375　　　　　　　380

Asn Ser Asn Ala His Leu Asp Ser Ser Gln Asn Pro Tyr Leu Ile Ile
385　　　　　　　390　　　　　　　395　　　　　　　400

Ala Thr Leu Phe Met Leu Val Phe Asp Thr Leu Leu Tyr Leu Val Leu
　　　　　　　405　　　　　　　410　　　　　　　415

Thr Leu Tyr Phe Asp Lys Ile Leu Pro Ala Glu Tyr Gly His Arg Cys
　　　　　420　　　　　　　425　　　　　　　430

Ser Pro Leu Phe Phe Leu Lys Ser Cys Phe Trp Phe Gln His Gly Arg
　　　435　　　　　　　440　　　　　　　445

Ala Asn His Val Val Leu Glu Asn Glu Thr Asp Ser Asp Pro Thr Pro
　　　450　　　　　　　455　　　　　　　460

Asn Asp Cys Phe Glu Pro Val Ser Pro Glu Phe Cys Gly Lys Glu Ala
465　　　　　　　470　　　　　　　475　　　　　　　480

Ile Arg Ile Lys Asn Leu Lys Lys Glu Tyr Ala Gly Lys Cys Glu Arg
　　　　　485　　　　　　　490　　　　　　　495

Val Glu Ala Leu Lys Gly Val Val Phe Asp Ile Tyr Glu Gly Gln Ile
　　　　　500　　　　　　　505　　　　　　　510

Thr Ala Leu Leu Gly His Ser Gly Ala Gly Lys Thr Thr Leu Leu Asn
　　　515　　　　　　　520　　　　　　　525

Ile Leu Ser Gly Leu Ser Val Pro Thr Ser Gly Ser Val Thr Val Tyr
530　　　　　　　535　　　　　　　540

Asn His Thr Leu Ser Arg Met Ala Asp Ile Glu Asn Ile Ser Lys Phe
545   550   555   560

Thr Gly Phe Cys Pro Gln Ser Asn Val Gln Phe Gly Phe Leu Thr Val
            565   570   575

Lys Glu Asn Leu Arg Leu Phe Ala Lys Ile Lys Gly Ile Leu Pro His
            580   585   590

Glu Val Glu Lys Glu Val Gln Arg Val Val Gln Glu Leu Glu Met Glu
            595   600   605

Asn Ile Gln Asp Ile Leu Ala Gln Asn Leu Ser Gly Gly Gln Asn Arg
    610   615   620

Lys Leu Thr Phe Gly Ile Ala Ile Leu Gly Asp Pro Gln Val Leu Leu
625   630   635   640

Leu Asp Glu Pro Thr Ala Gly Leu Asp Pro Leu Ser Arg His Arg Ile
            645   650   655

Trp Asn Leu Leu Lys Glu Gly Lys Ser Asp Arg Val Ile Leu Phe Ser
            660   665   670

Thr Gln Phe Ile Asp Glu Ala Asp Ile Leu Ala Asp Arg Lys Val Phe
            675   680   685

Ile Ser Asn Gly Lys Leu Lys Cys Ala Gly Ser Ser Leu Phe Leu Lys
    690   695   700

Lys Lys Trp Gly Ile Gly Tyr His Leu Ser Leu His Leu Asn Glu Arg
705   710   715   720

Cys Asp Pro Glu Ser Ile Thr Ser Leu Val Lys Gln His Ile Ser Asp
            725   730   735

Ala Lys Leu Thr Ala Gln Ser Glu Glu Lys Leu Val Tyr Ile Leu Pro
            740   745   750

Leu Glu Arg Thr Asn Lys Phe Pro Glu Leu Tyr Arg Asp Leu Asp Arg
            755   760   765

Cys Ser Asn Gln Gly Ile Glu Asp Tyr Gly Val Ser Ile Thr Thr Leu
    770   775   780

Asn Glu Val Phe Leu Lys Leu Glu Gly Lys Ser Thr Ile Asp Glu Ser
785   790   795   800

Asp Ile Gly Ile Trp Gly Gln Leu Gln Thr Asp Gly Ala Lys Asp Ile
            805   810   815

Gly Ser Leu Val Glu Leu Glu Gln Val Leu Ser Ser Phe His Glu Thr
            820   825   830

Arg Lys Thr Ile Ser Gly Val Ala Leu Trp Arg Gln Gln Val Cys Ala
            835   840   845

Ile Ala Lys Val Arg Phe Leu Lys Leu Lys Lys Glu Arg Lys Ser Leu
    850   855   860

Trp Thr Ile Leu Leu Leu Phe Gly Ile Ser Phe Ile Pro Gln Leu Leu
865   870   875   880

Glu His Leu Phe Tyr Glu Ser Tyr Gln Lys Ser Tyr Pro Trp Glu Leu
              885   890   895

Ser Pro Asn Thr Tyr Phe Leu Ser Pro Gly Gln Gln Pro Gln Asp Pro
              900   905   910

Leu Thr His Leu Leu Val Ile Asn Lys Thr Gly Ser Thr Ile Asp Asn
              915   920   925

Phe Leu His Ser Leu Arg Arg Gln Asn Ile Ala Ile Glu Val Asp Ala
    930   935   940

Phe Gly Thr Arg Asn Gly Thr Asp Asp Pro Ser Tyr Asn Gly Ala Ile
945   950   955   960

Ile Val Ser Gly Asp Glu Lys Asp His Arg Phe Ser Ile Ala Cys Asn
              965   970   975

Thr Lys Arg Leu Asn Cys Phe Pro Val Leu Leu Asp Val Ile Ser Asn
              980   985   990

Gly Leu Leu Gly Ile Phe Asn Ser Ser Glu His Ile Gln Thr Asp Arg
              995   1000   1005

Ser Thr Phe Phe Glu Glu His Met Asp Tyr Glu Tyr Gly Tyr Arg Ser
    1010   1015   1020

Asn Thr Phe Phe Trp Ile Pro Met Ala Ala Ser Phe Thr Pro Tyr Ile
1025   1030   1035   1040

Ala Met Ser Ser Ile Gly Asp Tyr Lys Lys Lys Ala His Ser Gln Leu
              1045   1050   1055

Arg Ile Ser Gly Leu Tyr Pro Ser Ala Tyr Trp Phe Gly Gln Ala Leu
              1060   1065   1070

Val Asp Val Ser Leu Tyr Phe Leu Ile Leu Leu Leu Met Gln Ile Met
    1075   1080   1085

Asp Tyr Ile Phe Ser Pro Glu Glu Ile Ile Phe Ile Ile Gln Asn Leu
    1090   1095   1100

Leu Ile Gln Ile Leu Cys Ser Ile Gly Tyr Val Ser Ser Leu Val Phe
1105   1110   1115   1120

Leu Thr Tyr Val Ile Ser Phe Ile Phe Arg Asn Gly Arg Lys Asn Ser
              1125   1130   1135

Gly Ile Trp Ser Phe Phe Phe Leu Ile Val Val Ile Phe Ser Ile Val
              1140   1145   1150

Ala Thr Asp Leu Asn Glu Tyr Gly Phe Leu Gly Leu Phe Phe Gly Thr
              1155   1160   1165

Met Leu Ile Pro Pro Phe Thr Leu Ile Gly Ser Leu Phe Ile Phe Ser
    1170   1175   1180

Glu Ile Ser Pro Asp Ser Met Asp Tyr Leu Gly Ala Ser Glu Ser Glu
1185   1190   1195   1200

Ile Val Tyr Leu Ala Leu Leu Ile Pro Tyr Leu His Phe Leu Ile Phe
              1205   1210   1215

Leu Phe Ile Leu Arg Cys Leu Glu Met Asn Cys Arg Lys Lys Leu Met
                          Page 21

Arg Lys Asp Pro Val Phe Arg Ile Ser Pro Arg Ser Asn Ala Ile Phe
        1235   1240   1245

Pro Asn Pro Glu Glu Pro Glu Gly Glu Glu Glu Asp Ile Gln Met Glu
    1250   1255   1260

Arg Met Arg Thr Val Asn Ala Met Ala Val Arg Asp Phe Asp Glu Thr
1265   1270   1275   1280

Pro Val Ile Ile Ala Ser Cys Leu Arg Lys Glu Tyr Ala Gly Lys Lys
            1285   1290   1295

Lys Asn Cys Phe Ser Lys Arg Lys Lys Thr Ile Ala Thr Arg Asn Val
        1300   1305   1310

Ser Phe Cys Val Lys Lys Gly Glu Val Ile Gly Leu Leu Gly His Asn
        1315   1320   1325

Gly Ala Gly Lys Ser Thr Thr Ile Lys Met Ile Thr Gly Asp Thr Lys
    1330   1335   1340

Pro Thr Ala Gly Gln Val Ile Leu Lys Gly Ser Gly Gly Gly Glu Pro
1345   1350   1355   1360

Leu Gly Phe Leu Gly Tyr Cys Pro Gln Glu Asn Ala Leu Trp Pro Asn
            1365   1370   1375

Leu Thr Val Arg Gln His Leu Glu Val Tyr Ala Ala Val Lys Gly Leu
        1380   1385   1390

Arg Lys Gly Asp Ala Met Ile Ala Ile Thr Arg Leu Val Asp Ala Leu
    1395   1400   1405

Lys Leu Gln Asp Gln Leu Lys Ala Pro Val Lys Thr Leu Ser Glu Gly
    1410   1415   1420

Ile Lys Arg Lys Leu Arg Phe Val Leu Ser Ile Leu Gly Asn Pro Ser
1425   1430   1435   1440

Val Val Leu Leu Asp Glu Pro Ser Thr Gly Met Asp Pro Glu Gly Gln
            1445   1450   1455

Gln Gln Met Trp Gln Val Ile Arg Ala Thr Phe Arg Asn Thr Glu Arg
        1460   1465   1470

Gly Ala Leu Leu Thr Thr His Tyr Met Ala Glu Ala Glu Ala Val Cys
    1475   1480   1485

Asp Arg Val Ala Ile Met Val Ser Gly Arg Leu Arg Cys Ile Gly Ser
    1490   1495   1500

Ile Gln His Leu Lys Ser Lys Phe Gly Lys Asp Tyr Leu Leu Glu Met
1505   1510   1515   1520

Lys Leu Lys Asn Leu Ala Gln Met Glu Pro Leu His Ala Glu Ile Leu
        1525   1530   1535

Arg Leu Phe Pro Gln Ala Ala Gln Gln Glu Arg Phe Ser Ser Leu Met
        1540   1545   1550

Val Tyr Lys Leu Pro Val Glu Asp Val Arg Pro Leu Ser Gln Ala Phe
    1555   1560   1565

Phe Lys Leu Glu Ile Val Lys Gln Ser Phe Asp Leu Glu Glu Tyr Ser
    1570   1575   1580

Leu Ser Gln Ser Thr Leu Glu Gln Val Phe Leu Glu Leu Ser Lys Glu
1585   1590   1595   1600

Gln Glu Leu Gly Asp Leu Glu Glu Asp Phe Asp Pro Ser Val Lys Trp
                1605   1610   1615

Lys Leu Leu Leu Gln Glu Glu Pro
            1620

<210> 8
<211> 1543
<212> PRT
<213> Homo sapiens

<220>
<221> UNSURE
<222> 181
<223> Xaa=unknown, may be any amino acid

<400> 8
Met Asn Lys Met Ala Leu Ala Ser Phe Met Lys Gly Arg Thr Val Ile
  1   5   10   15

Gly Thr Pro Asp Glu Glu Thr Met Asp Ile Glu Leu Pro Lys Lys Tyr
            20   25   30

His Glu Met Val Gly Val Ile Phe Ser Asp Thr Phe Ser Tyr Arg Leu
        35   40   45

Lys Phe Asn Trp Gly Tyr Arg Ile Pro Val Ile Lys Glu His Ser Glu
    50   55   60

Tyr Thr Glu His Cys Trp Ala Met His Gly Glu Ile Phe Cys Tyr Leu
  65   70   75   80

Ala Lys Tyr Trp Leu Lys Gly Phe Val Ala Phe Gln Ala Ala Ile Asn
                85   90   95

Ala Ala Ile Ile Glu Val Thr Thr Asn His Ser Val Met Glu Glu Leu
            100   105   110

Thr Ser Val Ile Gly Ile Asn Met Lys Ile Pro Pro Phe Ile Ser Lys
        115   120   125

Gly Glu Ile Met Asn Glu Trp Phe His Phe Thr Cys Leu Val Ser Phe
    130   135   140

Ser Ser Phe Ile Tyr Phe Ala Ser Leu Asn Val Ala Arg Glu Arg Gly
145   150   155   160

Lys Phe Lys Lys Leu Met Thr Val Met Gly Leu Arg Glu Ser Ala Phe
            165   170   175

Trp Leu Ser Trp Xaa Leu Thr Tyr Ile Cys Phe Ile Phe Ile Met Ser
            180   185   190

Ile Phe Met Ala Leu Val Ile Thr Ser Ile Ser Ile Val Phe His Thr
    195   200   205

Page 23

```
Gly Phe Met Val Ile Phe Thr Leu Tyr Ser Leu Tyr Gly Leu Ser Leu
210             215             220

Ile Ala Leu Ala Phe Leu Met Ser Val Leu Ile Arg Lys Pro Met Leu
225             230             235             240

Ala Gly Leu Ala Gly Phe Leu Phe Thr Val Phe Trp Gly Cys Leu Gly
                245             250             255

Phe Thr Val Leu Tyr Arg Gln Leu Pro Leu Ser Leu Gly Trp Val Leu
                260             265             270

Ser Leu Leu Ser Pro Phe Ala Phe Thr Ala Gly Met Ala Gln Val Thr
        275             280             285

His Leu Asp Asn Tyr Leu Ser Gly Val Ile Phe Pro Asp Pro Ser Gly
        290             295             300

Asp Ser Tyr Lys Met Ile Ala Thr Phe Phe Ile Leu Ala Phe Asp Thr
305             310             315             320

Leu Phe Tyr Leu Ile Phe Thr Leu Tyr Phe Glu Arg Val Leu Pro Asp
                325             330             335

Lys Asp Gly His Gly Asp Ser Pro Leu Phe Phe Leu Lys Ser Ser Phe
                340             345             350

Trp Ser Lys His Gln Asn Thr His His Glu Ile Phe Glu Asn Glu Ile
        355             360             365

Asn Pro Glu His Ser Ser Asp Asp Ser Phe Glu Pro Val Ser Pro Glu
        370             375             380

Phe His Gly Lys Glu Ala Ile Arg Ile Arg Asn Val Ile Lys Glu Tyr
385             390             395             400

Asn Gly Lys Thr Gly Lys Val Glu Ala Leu Gln Gly Ile Phe Phe Asp
                405             410             415

Ile Tyr Glu Gly Gln Ile Thr Ala Ile Leu Gly His Asn Gly Ala Gly
            420             425             430

Lys Ser Thr Leu Leu Asn Ile Leu Ser Gly Leu Ser Val Ser Thr Glu
        435             440             445

Gly Ser Ala Thr Ile Tyr Asn Thr Gln Leu Ser Glu Ile Thr Asp Met
    450             455             460

Glu Glu Ile Arg Lys Asn Ile Gly Phe Cys Pro Gln Phe Asn Phe Gln
465             470             475             480

Phe Asp Phe Leu Thr Val Arg Glu Asn Leu Arg Val Phe Ala Lys Ile
                485             490             495

Lys Gly Ile Gln Pro Lys Glu Val Glu Gln Glu Val Lys Arg Ile Ile
        500             505             510

Met Glu Leu Asp Met Gln Ser Ile Gln Asp Ile Ile Ala Lys Lys Leu
        515             520             525

Ser Gly Gly Gln Lys Arg Lys Leu Thr Leu Gly Ile Ala Ile Leu Gly
        530             535             540
```

```
Asp Pro Gln Val Leu Leu Leu Asp Glu Pro Thr Ala Gly Leu Asp Pro
545           550             555           560

Phe Ser Arg His Arg Val Trp Ser Leu Leu Lys Glu His Lys Val Asp
                565             570             575

Arg Leu Ile Leu Phe Ser Thr Gln Phe Met Asp Glu Ala Asp Ile Leu
            580             585             590

Ala Asp Arg Lys Val Phe Leu Ser Asn Gly Lys Leu Lys Cys Ala Gly
        595             600             605

Ser Ser Leu Phe Leu Lys Arg Lys Trp Gly Ile Gly Tyr His Leu Ser
    610             615             620

Leu His Arg Asn Glu Met Cys Asp Thr Glu Lys Ile Thr Ser Leu Ile
625             630             635             640

Lys Gln His Ile Pro Asp Ala Lys Leu Thr Thr Glu Ser Glu Glu Lys
            645             650             655

Leu Val Tyr Ser Leu Pro Leu Glu Lys Thr Asn Lys Phe Pro Asp Leu
            660             665             670

Tyr Ser Asp Leu Asp Lys Cys Ser Asp Gln Gly Ile Arg Asn Tyr Ala
            675             680             685

Val Ser Val Thr Ser Leu Asn Glu Val Phe Leu Asn Leu Glu Gly Lys
    690             695             700

Ser Ala Ile Asp Glu Pro Asp Phe Asp Ile Gly Lys Gln Glu Lys Ile
705             710             715             720

His Val Thr Arg Asn Thr Gly Asp Glu Ser Glu Met Glu Gln Val Leu
            725             730             735

Cys Ser Leu Pro Glu Thr Arg Lys Ala Val Ser Ser Ala Ala Leu Trp
            740             745             750

Arg Arg Gln Ile Tyr Ala Val Ala Thr Leu Arg Phe Leu Lys Leu Arg
    755             760             765

Arg Glu Arg Arg Ala Leu Leu Cys Leu Leu Leu Val Leu Gly Ile Ala
    770             775             780

Phe Ile Pro Ile Ile Leu Glu Lys Ile Met Tyr Lys Val Thr Arg Glu
785             790             795             800

Thr His Cys Trp Glu Phe Ser Pro Ser Met Tyr Phe Leu Ser Leu Glu
            805             810             815

Gln Ile Pro Lys Thr Pro Leu Thr Ser Leu Leu Ile Val Asn Asn Thr
            820             825             830

Gly Ser Asn Ile Glu Asp Leu Val His Ser Leu Lys Cys Gln Asp Ile
    835             840             845

Val Leu Glu Ile Asp Asp Phe Arg Asn Arg Asn Gly Ser Asp Asp Pro
    850             855             860

Ser Tyr Asn Gly Ala Ile Ile Val Ser Gly Asp Gln Lys Asp Tyr Arg
865             870             875             880

Phe Ser Val Ala Cys Asn Thr Lys Lys Leu Asn Cys Phe Pro Val Leu
                      Page 25
```

Met Gly Ile Val Ser Asn Ala Leu Met Gly Ile Phe Asn Phe Thr Glu
         900   905   910

Leu Ile Gln Thr Glu Ser Thr Ser Phe Ser Arg Asp Asp Ile Val Leu
       915   920   925

Asp Leu Gly Phe Ile Asp Gly Ser Ile Phe Leu Leu Leu Ile Thr Asn
  930   935   940

Cys Val Ser Pro Phe Ile Gly Met Ser Ser Ile Ser Asp Tyr Lys Lys
945   950   955   960

Asn Val Gln Ser Gln Leu Trp Ile Ser Gly Leu Trp Pro Ser Ala Tyr
         965   970   975

Trp Cys Gly Gln Ala Leu Val Asp Ile Pro Leu Tyr Phe Leu Ile Leu
         980   985   990

Phe Ser Ile His Leu Ile Tyr Tyr Phe Ile Phe Leu Gly Phe Gln Leu
       995   1000   1005

Ser Trp Glu Leu Met Phe Val Leu Val Val Cys Ile Ile Gly Cys Ala
  1010   1015   1020

Val Ser Leu Ile Phe Leu Thr Tyr Val Leu Ser Phe Ile Phe Arg Lys
1025   1030   1035   1040

Trp Arg Lys Asn Asn Gly Phe Trp Ser Phe Gly Phe Phe Ile Ile Leu
         1045   1050   1055

Ile Cys Val Ser Thr Ile Met Val Ser Thr Gln Tyr Glu Lys Leu Asn
         1060   1065   1070

Leu Ile Leu Cys Met Ile Phe Ile Pro Ser Phe Thr Leu Leu Gly Tyr
       1075   1080   1085

Val Met Leu Leu Ile Gln Leu Asp Phe Met Arg Asn Leu Asp Ser Leu
    1090   1095   1100

Asp Asn Arg Ile Asn Glu Val Asn Lys Thr Ile Leu Leu Thr Thr Leu
1105   1110   1115   1120

Ile Pro Tyr Leu Gln Ser Val Ile Phe Leu Phe Val Ile Arg Cys Leu
         1125   1130   1135

Glu Met Lys Tyr Gly Asn Glu Ile Met Asn Lys Asp Pro Val Phe Arg
        1140   1145   1150

Ile Ser Pro Arg Ser Arg Glu Thr His Pro Asn Pro Glu Glu Pro Glu
       1155   1160   1165

Glu Glu Asp Glu Asp Val Gln Ala Glu Arg Val Gln Ala Ala Asn Ala
  1170   1175   1180

Leu Thr Ala Pro Asn Leu Glu Glu Glu Pro Val Ile Thr Ala Ser Cys
1185   1190   1195   1200

Leu His Lys Glu Tyr Tyr Glu Thr Lys Lys Ser Cys Phe Ser Thr Arg
        1205   1210   1215

Lys Lys Lys Ile Ala Ile Arg Asn Val Ser Phe Cys Val Lys Lys Gly
      1220   1225   1230

Glu Val Leu Gly Leu Leu Gly His Asn Gly Ala Gly Lys Ser Thr Ser
        1235   1240   1245

Ile Lys Met Ile Thr Gly Cys Thr Lys Pro Thr Ala Gly Val Val Val
      1250   1255   1260

Leu Gln Gly Ser Arg Ala Ser Val Arg Gln Gln His Asp Asn Ser Leu
1265   1270   1275   1280

Lys Phe Leu Gly Tyr Cys Pro Gln Glu Asn Ser Leu Trp Pro Lys Leu
              1285   1290   1295

Thr Met Lys Glu His Leu Glu Leu Tyr Ala Ala Val Lys Gly Leu Gly
          1300   1305   1310

Lys Glu Asp Ala Ala Leu Ser Ile Ser Arg Leu Val Glu Ala Leu Lys
      1315   1320   1325

Leu Gln Glu Gln Leu Lys Ala Pro Val Lys Thr Leu Ser Glu Gly Ile
    1330   1335   1340

Lys Arg Lys Leu Cys Phe Val Leu Ser Ile Leu Gly Asn Pro Ser Val
1345   1350   1355   1360

Val Leu Leu Asp Glu Pro Phe Thr Gly Met Asp Pro Glu Gly Gln Gln
            1365   1370   1375

Gln Met Trp Gln Ile Leu Gln Ala Thr Val Lys Asn Lys Glu Arg Gly
          1380   1385   1390

Thr Leu Leu Thr Thr His Tyr Met Ser Glu Ala Glu Ala Val Cys Asp
      1395   1400   1405

Arg Met Ala Met Met Val Ser Gly Thr Leu Arg Cys Ile Gly Ser Ile
    1410   1415   1420

Gln His Leu Lys Asn Lys Phe Gly Arg Asp Tyr Leu Leu Glu Ile Lys
1425   1430   1435   1440

Met Lys Glu Pro Thr Gln Val Glu Ala Leu His Thr Glu Ile Leu Lys
            1445   1450   1455

Leu Phe Pro Gln Ala Ala Trp Gln Glu Arg Tyr Ser Ser Leu Met Ala
          1460   1465   1470

Tyr Lys Leu Pro Val Glu Asp Val His Pro Leu Ser Arg Ala Phe Phe
      1475   1480   1485

Lys Leu Glu Ala Met Lys Gln Thr Phe Asn Leu Glu Glu Tyr Ser Leu
    1490   1495   1500

Ser Gln Ala Thr Leu Glu Gln Val Phe Leu Glu Leu Cys Lys Glu Gln
1505   1510   1515   1520

Glu Leu Gly Asn Val Asp Asp Lys Ile Asp Thr Thr Val Glu Trp Lys
          1525   1530   1535

Leu Leu Pro Gln Glu Asp Pro
          1540

<210> 9

<211> 130
<212> DNA
<213> Homo sapiens

<400> 9
ctgctggagt aggcacccat ttaaagaaaa aatgaagaag cagcaataaa gaagttgtaa 60
tcgttaccta gacaaacaga gaactggttt tgacagtgtt tctagagtgc tttttattat 120
tttcctgaca 130

<210> 10
<211> 141
<212> DNA
<213> Homo sapiens

<400> 10
gttgtgttcc accatgatta ctttctcctt cagcgaatag gctaaatgaa tatgaaacag 60
aaaagcgtgt atcagcaaac caaagcactt ctgtgcaaga attttcttaa gaaatggagg 120
atgaaaagag agagcttatt g 141

<210> 11
<211> 205
<212> DNA
<213> Homo sapiens

<400> 11
gaatggggcc tctcaatact tctaggactg tgtattgctc tgttttccag ttccatgaga 60
aatgtccagt ttcctggaat ggctcctcag aatctgggaa gggtagataa atttaatagc 120
tcttctttaa tggttgtgta tacaccaata tctaatttaa cccagcagat aatgaataaa 180
acagcacttg ctcctctttt gaaag 205

<210> 12
<211> 159
<212> DNA
<213> Homo sapiens

<400> 12
gaacaagtgt cattggggca ccaaataaaa cacacatgga cgaaatactt ctggaaaatt 60
taccatatgc tatgggaatc atctttaatg aaactttctc ttataagtta atatttttcc 120
agggatataa cagtccactt tggaaagaag atttctcag 159

<210> 13
<211> 104
<212> DNA
<213> Homo sapiens

<400> 13
ctcattgctg ggatggatat ggtgagtttt catgtacatt gaccaaatac tggaatagag 60
gatttgtggc tttacaaaca gctattaata ctgccattat agaa 104

<210> 14
<211> 227
<212> DNA
<213> Homo sapiens

<400> 14
atcacaacca atcaccctgt gatggaggag ttgatgtcag ttactgctat aactatgaag 60
acattacctt tcataactaa aaatcttctt cacaatgaga tgtttatttt attcttcttg 120
cttcatttct ccccacttgt atattttata tcactcaatg taacaaaaga gagaaaaaag 180
tctaagaatt tgatgaaaat gatgggtctc caagattcag cattctg 227
Page 28

<210> 15
<211> 142
<212> DNA
<213> Homo sapiens

<400> 15
gctctcctgg ggtctaatct atgctggctt catctttatt atttccatat tcattacaat 60
tatcataaca ttcacccaaa ttatagtcat gactggcttc atggtcatat ttatactctt 120
ttttttatat ggcttatctt tg 142

<210> 16
<211> 186
<212> DNA
<213> Homo sapiens

<400> 16
gtagctttgg tgttcctgat gagtgtgctg ttaaagaaag ctgtcctcac caatttggtt 60
gtgtttctcc ttaccctctt ttggggatgt ctgggattca ctgtatttta tgaacaactt 120
ccttcatctc tggagtggat tttgaatatt tgtagccctt ttgcctttac tactggaatg 180
attcag 186

<210> 17
<211> 148
<212> DNA
<213> Homo sapiens

<400> 17
attatcaaac tggattataa cttgaatggt gtaatttttc ctgacccttc aggagactca 60
tatacaatga tagcaacttt ttctatgttg cttttggatg gtctcatcta cttgctattg 120
gcattatact ttgacaaaat tttaccct 148

<210> 18
<211> 169
<212> DNA
<213> Homo sapiens

<400> 18
atggagatga gcgccattat tctcctttat ttttcttgaa ttcatcatct tgtttccaac 60
accaaaggac taatgctaag gttattgaga aagaaatcga tgctgagcat ccctctgatg 120
attattttga accagtagct cctgaattcc aaggaaaaga agccatcag 169

<210> 19
<211> 59
<212> DNA
<213> Homo sapiens

<400> 19
aatcagaaat gttaagaagg aatataaagg aaaatctgga aaagtggaag cattgaaag 59

<210> 20
<211> 111
<212> DNA
<213> Homo sapiens

<400> 20
gcttgctctt tgacatatat gaaggtcaaa tcacggcaat cctgggtcac agtggagctg 60
gcaaatcttc actgctaaat attcttaatg gattgtctgt tccaacagaa g 111

<210> 21
<211> 176
<212> DNA
<213> Homo sapiens

<400> 21
gatcagttac catctataat aaaaatctct ctgaaatgca agacttggag gaaatcagaa 60
agataactgg cgtctgtcct caattcaatg ttcaatttga catactcacc gtgaaggaaa 120
acctcagcct gtttgctaaa ataaaaggga ttcatctaaa ggaagtggaa caagag 176

<210> 22
<211> 120
<212> DNA
<213> Homo sapiens

<400> 22
gtacaacgaa tattattgga attggacatg caaaacattc aagataacct tgctaaacat 60
ttaagtgaag gacagaaaag aaagctgact tttgggatta ccattttagg agatcctcaa 120

<210> 23
<211> 139
<212> DNA
<213> Homo sapiens

<400> 23
attttgcttt tagatgaacc aactactgga ttggatccct tttccagaga tcaagtgtgg 60
agcctcctga gagagcgtag agcagatcat gtgatccttt tcagtaccca gtccatggat 120
gaggctgaca tcctggctg 139

<210> 24
<211> 91
<212> DNA
<213> Homo sapiens

<400> 24
atagaaaagt gatcatgtcc aatgggagac tgaagtgtgc aggttcttct atgtttttga 60
aaagaaggtg gggtcttgga tatcacctaa g 91

<210> 25
<211> 140
<212> DNA
<213> Homo sapiens

<400> 25
tttacatagg aatgaaatat gtaacccaga acaaataaca tccttcatta ctcatcacat 60
ccccgatgct aaaattaaaaa cagaaaacaa agaaaagctt gtatatactt tgccactgga 120
aaggacaaat acatttccag 140

<210> 26
<211> 117
<212> DNA
<213> Homo sapiens

<400> 26
atcttttcag tgatctggat aagtgttctg accagggagt gacaggttat gacatttcca 60
tgtcaactct aaatgaagtc tttatgaaac tggaaggaca gtcaactatc gaacaag 117

<210> 27
<211> 184
<212> DNA
<213> Homo sapiens

<400> 27
atttcgaaca agtggagatg ataagagact cagaaagcct caatgaaatg gagctggctc 60
actcttcctt ctctgaaatg cagacagctg tgagtgacat gggcctctgg agaatgcaag 120
tctttgccat ggcacggctc cgtttcttaa agttaaaacg tcaaactaaa gtgttattga 180
ccct 184

<210> 28
<211> 167
<212> DNA
<213> Homo sapiens

<400> 28
attattggta tttggaatcg caatattccc tttgattgtt gaaaatataa tatatgctat 60
gttaaatgaa aagatcgatt gggaatttaa aaacgaattg tattttctct ctcctggaca 120
acttccccag gaaccccgta ccagcctgtt gatcatcaat aacacag 167

<210> 29
<211> 134
<212> DNA
<213> Homo sapiens

<400> 29
aatcaaatat tgaagatttt ataaaatcac tgaagcatca aaatatactt ttggaagtag 60
atgactttga aaacagaaat ggtactgatg gcctctcata caatggagct atcatagttt 120
ctggtaaaca aaag 134

<210> 30
<211> 138
<212> DNA
<213> Homo sapiens

<400> 30
gattatagat tttcagttgt gtgtaatacc aagagattgc actgttttcc aattcttatg 60
aatattatca gcaatgggct acttcaaatg tttaatcaca cacaacatat tcgaattgag 120
tcaagcccat ttcctctt 138

<210> 31
<211> 108
<212> DNA
<213> Homo sapiens

<400> 31
agccacatag gactctggac tgggttgccg gatggttcct ttttcttatt tttggttcta 60
tgtagcattt ctccttatat caccatgggc agcatcagtg attacaag 108

<210> 32
<211> 174
<212> DNA
<213> Homo sapiens

<400> 32
aaaaatgcta agtcccagct atggatttca ggcctctaca cttctgctta ctggtgtggg 60
caggcactag tggacgtcag cttcttcatt ttaattctcc ttttaatgta tttaattttc 120

```
tacatagaaa acatgcagta ccttcttatt acaagccaaa ttgtgtttgc tttg          174


<210> 33
<211> 114
<212> DNA
<213> Homo sapiens

<400> 33
gttatagtta ctcctggtta tgcagcttct cttgtcttct tcatatatat gatatcattt 60
atttttcgca aaaggagaaa aaacagtggc ctttggtcat tttacttctt tttt         114


<210> 34
<211> 120
<212> DNA
<213> Homo sapiens

<400> 34
gcctccacca tcatgttttc catcacttta atcaatcatt ttgacctaag tatattgatt 60
accaccatgg tattggttcc ttcatatacc ttgcttggat ttaaaacttt tttggaagtg 120


<210> 35
<211> 78
<212> DNA
<213> Homo sapiens

<400> 35
agagaccagg agcactacag agaatttcca gaggcaaatt ttgaattgag tgccactgat 60
tttctagtct gcttcata                                               78


<210> 36
<211> 92
<212> DNA
<213> Homo sapiens

<400> 36
ccctactttc agactttgct attcgttttt gttctaagat gcatggaact aaaatgtgga 60
aagaaaagaa tgcgaaaaga tcctgttttc ag                                92


<210> 37
<211> 121
<212> DNA
<213> Homo sapiens

<400> 37
aatttccccc caaagtagag atgctaagcc aaatccagaa gaacccatag atgaagatga 60
agatattcaa acagaaagaa taagaacagc cactgctctg accacttcaa tcttagatga 120
g                                                                 121


<210> 38
<211> 118
<212> DNA
<213> Homo sapiens

<400> 38
aaacctgtta taattgccag ctgtctacac aaagaatatg caggccagaa gaaaagttgc 60
ttttcaaaga ggaagaagaa aatagcagca agaaatatct ctttctgtgt tcaagaag   118
```

<210> 39
<211> 92
<212> DNA
<213> Homo sapiens

<400> 39
gtgaaatttt gggattgcta ggacccagtg gtgctggaaa aagttcatct attagaatga 60
tatctgggat cacaaagcca actgctggag ag 92

<210> 40
<211> 155
<212> DNA
<213> Homo sapiens

<400> 40
gtggaactga aaggctgcag ttcagttttg ggccacctgg ggtactgccc tcaagagaac 60
gtgctgtggc ccatgctgac gttgagggaa cacctggagg tgtatgctgc cgtcaagggg 120
ctcaggaaag cggacgcgag gctcgccatc gcaag 155

<210> 41
<211> 76
<212> DNA
<213> Homo sapiens

<400> 41
attagtgagt gctttcaaac tgcatgagca gctgaatgtt cctgtgcaga aattaacagc 60
aggaatcacg agaaag 76

<210> 42
<211> 95
<212> DNA
<213> Homo sapiens

<400> 42
ttgtgttttg tgctgagcct cctgggaaac tcacctgtct tgctcctgga tgaaccatct 60
acgggcatag accccacagg gcagcagcaa atgtg 95

<210> 43
<211> 120
<212> DNA
<213> Homo sapiens

<400> 43
gcaggcaatc caggcagtcg ttaaaaacac agagagaggt gtcctcctga ccacccataa 60
cctggctgag gcggaagcct tgtgtgaccg tgtggccatc atggtgtctg gaaggcttag 120

<210> 44
<211> 141
<212> DNA
<213> Homo sapiens

<400> 44
atgcattggc tccatccaac acctgaaaaa caaacttggc aaggattaca ttctagagct 60
aaaagtgaag gaaacgtctc aagtgacttt ggtccacact gagattctga agctttttccc 120
acaggctgca gggcaggaaa g 141

<210> 45
<211> 80

Page 33

<212> DNA
<213> Homo sapiens

<400> 45
gtattcctct ttgttaacct ataagctgcc cgtggcagac gtttaccctc tatcacagac 60
ctttcacaaa ttagaagcag 80

<210> 46
<211> 56
<212> DNA
<213> Homo sapiens

<400> 46
tgaagcataa ctttaacctg gaagaataca gcctttctca gtgcacactg gagaag 56

<210> 47
<211> 369
<212> DNA
<213> Homo sapiens

<400> 47
gtattcttag agctttctaa agaacaggaa gtaggaaatt ttgatgaaga aattgataca 60
acaatgagat ggaaactcct ccctcattca gatgaacctt aaaacctcaa acctagtaat 120
tttttgttga tctcctataa acttatgttt tatgtaataa ttaatagtat gtttaatttt 180
aaagatcatt taaaattaac atcaggtata ttttgtaaat ttagttaaca aatacataaa 240
ttttaaaatt attcttcctc tcaaacatag gggtgatagc aaacctgtga taaaggcaat 300
acaaaatatt agtaaagtca cccaaagagt caggcactgg gtattgtgga aataaaacta 360
tataaactt 369

<210> 48
<211> 130
<212> DNA
<213> Homo sapiens

<400> 48
attcacaatg aatgtgaaat taaaagcatg atgtagtagt gacccaaaag gaatgtgaat 60
tctcctccag aacatgcaga gacccatgga tgaactgtgt ttctagattt ttcctccagc 120
tttcctgaga 130

<210> 49
<211> 109
<212> DNA
<213> Homo sapiens

<400> 49
gaaacaggtc aaaatgagca agagacgcat gagcgtgggt cagcaaacat gggctcttct 60
ctgcaagaac tgtctcaaaa aatggagaat gaaaagacag accttgttg 109

<210> 50
<211> 208
<212> DNA
<213> Homo sapiens

<400> 50
gaatggctct tttcatttct tctggtactg tttctgtacc tattttttctc caatttacat 60
caagttcatg acactcctca aatgtcttca atggatctgg gacgtgtaga tagttttaat 120
gatactaatt atgttattgc atttgcacct gaatccaaaa ctacccaaga gataatgaac 180
aaagtggctt cagccccatt cctaaaag 208

Page 34

<210> 51
<211> 165
<212> DNA
<213> Homo sapiens

<400> 51
gaagaacaat catggggtgg cctgatgaaa aaagcatgga tgaattggat ttgaactatt 60
caatagacgc agtgagagtc atctttactg ataccttctc ctaccatttg aagttttctt 120
ggggacatag aatccccatg atgaaagagc acagagacca ttcag 165

<210> 52
<211> 104
<212> DNA
<213> Homo sapiens

<400> 52
ctcactgtca agcagtgaat gaaaaaatga agtgtgaagg ttcagagttc tgggagaaag 60
gctttgtagc ttttcaagct gccattaatg ctgctatcat agaa 104

<210> 53
<211> 227
<212> DNA
<213> Homo sapiens

<400> 53
atcgcaacaa atcattcagt gatggaacag ctgatgtcag ttactggtgt acatatgaag 60
atattacctt ttgttgccca aggaggagtt gcaactgatt ttttcatttt cttttgcatt 120
atttcttttt ctacatttat atactatgta tcagtcaatg ttacacaaga aagacaatac 180
attacgtcat tgatgacaat gatgggactc cgagagtcag cattctg 227

<210> 54
<211> 142
<212> DNA
<213> Homo sapiens

<400> 54
gctttcctgg ggtttgatgt atgctggctt catccttatc atggccactt taatggctct 60
tattgtaaaa tctgcacaaa ttgtcgtcct gactggtttt gtgatggtct tcaccctctt 120
tctcctctat ggcctgtctt tg 142

<210> 55
<211> 186
<212> DNA
<213> Homo sapiens

<400> 55
ataactttag ctttcctgat gagtgtgttg ataaagaaac ctttccttac gggcttggtt 60
gtgtttctcc ttattgtctt ttggggggatc ctgggattcc cagcattgta tacacatctt 120
cctgcatttt tggaatggac tttgtgtctt cttagcccct ttgccttcac tgttgggatg 180
gcccag 186

<210> 56
<211> 148
<212> DNA
<213> Homo sapiens

<400> 56
cttatacatt tggactatga tgtgaattct aatgcccact tggattcttc acaaaatcca 60

Page 35

```
tacctcataa tagctactct tttcatgttg gttttttgaca cccttctgta tttggtattg 120
acattatatt ttgacaaaat tttgcccg                                     148


<210> 57
<211> 169
<212> DNA
<213> Homo sapiens

<400> 57
ctgaatatgg acatcgatgt tctcccttgt ttttcctgaa atcctgtttt tggtttcaac 60
acggaagggc taatcatgtg gtccttgaga atgaaacaga ttctgatcct acacctaatg 120
actgttttga accagtgtct ccagaattct gtgggaagga agccatcag             169


<210> 58
<211> 59
<212> DNA
<213> Homo sapiens

<400> 58
aatcaaaaat cttaaaaaag aatatgcagg gaagtgtgag agagtagaag ctttgaaag  59


<210> 59
<211> 111
<212> DNA
<213> Homo sapiens

<400> 59
gtgtggtgtt tgacatatat gaaggccaga tcactgccct ccttggtcac agtggagctg 60
gaaaaactac cctgttaaac atacttagtg ggttgtcagt tccaacatca g          111


<210> 60
<211> 176
<212> DNA
<213> Homo sapiens

<400> 60
gttcagtcac tgtctataat cacacacttt caagaatggc tgatatagaa aatatcagca 60
agttcactgg attttgtcca caatccaatg tgcaatttgg atttctcact gtgaaagaaa 120
acctcaggct gtttgctaaa ataaaaggga ttttgccaca tgaagtggag aaagag     176


<210> 61
<211> 120
<212> DNA
<213> Homo sapiens

<400> 61
gtacaacgag ttgtacagga attagaaatg gaaaatattc aagacatcct tgctcaaaac 60
ttaagtggtg gacaaaatag gaaactaact tttgggattg ccattttagg agatcctcaa 120


<210> 62
<211> 139
<212> DNA
<213> Homo sapiens

<400> 62
gttttgctat tggatgaacc gactgctgga ttggatcctc tttcaaggca ccgaatatgg 60
aatctcctga aagaggggaa atcagacaga gtaattctct tcagcaccca gtttatagat 120
gaggctgaca ttctggcgg                                              139
```

<210> 63
<211> 91
<212> DNA
<213> Homo sapiens

<400> 63
acaggaaggt gttcatatcc aatgggaagc tgaagtgtgc aggctcttct ctgttcctta 60
agaagaaatg gggcataggc taccatttaa g 91

<210> 64
<211> 140
<212> DNA
<213> Homo sapiens

<400> 64
tttgcatctg aatgaaaggt gtgatccaga gagtataaca tcactggtta agcagcacat 60
ctctgatgcc aaattgacag cacaaagtga agaaaaactt gtatatattt tgcctttgga 120
aaggacaaac aaatttccag 140

<210> 65
<211> 120
<212> DNA
<213> Homo sapiens

<400> 65
aactttacag ggatcttgat agatgttcta accaaggcat tgaggattat ggtgtttcca 60
taacaacttt gaatgaggtg tttctgaaat tagaaggaaa atcaactatt gatgaatcag 120

<210> 66
<211> 199
<212> DNA
<213> Homo sapiens

<400> 66
atattggaat ttggggacaa ttacaaactg atggggcaaa agatatagga agccttgttg 60
agctggaaca agttttgtct tccttccacg aaacaaggaa aacaatcagt ggcgtggcgc 120
tctggaggca gcaggtctgt gcaatagcaa aagttcgctt cctaaagtta aagaaagaaa 180
gaaaaagcct gtggactat 199

<210> 67
<211> 167
<212> DNA
<213> Homo sapiens

<400> 67
attattgctt tttggtatta gctttatccc tcaacttttg gaacatctat tctacgagtc 60
atatcagaaa agttacccgt gggaactgtc tccaaataca tacttcctct caccaggaca 120
acaaccacag gatcctctga cccatttact ggtcatcaat aagacag 167

<210> 68
<211> 134
<212> DNA
<213> Homo sapiens

<400> 68
ggtcaaccat tgataacttt ttacattcac tgaggcgaca gaacatagct atagaagtgg 60
atgcctttgg aactagaaat ggcacagatg acccatctta caatggtgct atcattgtgt 120

caggtgatga aaag   134

<210> 69
<211> 138
<212> DNA
<213> Homo sapiens

<400> 69
gatcacagat tttcaatagc atgtaataca aaacggctga attgctttcc tgtcctcctg 60
gatgtcatta gcaatggact acttggaatt tttaattcgt cagaacacat tcagactgac 120
agaagcacat tttttgaa   138

<210> 70
<211> 108
<212> DNA
<213> Homo sapiens

<400> 70
gagcatatgg attatgagta tgggtaccga agtaacacct tcttctggat accgatggca 60
gcctctttca ctccatacat tgcaatgagc agcattggtg actacaaa   108

<210> 71
<211> 174
<212> DNA
<213> Homo sapiens

<400> 71
aaaaaagctc attcccagct acggatttca ggcctctacc cttctgcata ctggtttggc 60
caagcactgg tggatgtttc cctgtacttt ttgatcctcc tgctaatgca aataatggat 120
tatattttta gcccagagga gattatattt ataattcaaa acctgttaat tcaa   174

<210> 72
<211> 114
<212> DNA
<213> Homo sapiens

<400> 72
atcctgtgta gtattggcta tgtctcatct cttgtttttct tgacatatgt gatttcattc 60
atttttcgca atgggagaaa aaatagtggc atttggtcat ttttcttctt aatt   114

<210> 73
<211> 120
<212> DNA
<213> Homo sapiens

<400> 73
gtggtcatct tctcgatagt tgctactgat ctaaatgaat atggatttct agggctattt 60
tttggcacca tgttaatacc tcccttcaca ttgattggct ctctattcat tttttctgag 120

<210> 74
<211> 69
<212> DNA
<213> Homo sapiens

<400> 74
atttctcctg attccatgga ttacttagga gcttcagaat ctgaaattgt atacctggca 60
ctgctaata   69

<210> 75
<211> 92
<212> DNA
<213> Homo sapiens

<400> 75
ccttaccttc attttctcat ttttctttc attctgcgat gcctagaaat gaactgcagg 60
aagaaactaa tgagaaagga tcctgtgttc ag   92

<210> 76
<211> 121
<212> DNA
<213> Homo sapiens

<400> 76
aatttctcca agaagcaacg ctattttcc aaacccagaa gagcctgaag gagaggagga 60
agatatccag atggaaagaa tgagaacagt gaatgctatg gctgtgcgag actttgatga 120
g   121

<210> 77
<211> 118
<212> DNA
<213> Homo sapiens

<400> 77
acacccgtca tcattgccag ctgtctacgg aaggaatatg caggcaaaaa gaaaaattgc 60
ttttctaaaa ggaagaaaac aattgccaca agaaatgtct ctttttgtgt taaaaaag   118

<210> 78
<211> 92
<212> DNA
<213> Homo sapiens

<400> 78
gtgaagttat aggactgtta ggacacaatg gagctggtaa aagtacaact attaagatga 60
taactggaga cacaaaacca actgcaggac ag   92

<210> 79
<211> 161
<212> DNA
<213> Homo sapiens

<400> 79
gtgattttga aagggagcgg tggaggggaa cccctgggct tcctggggta ctgccctcag 60
gagaatgcgc tgtggcccaa cctgacagtg aggcagcacc tggaggtgta cgctgccgtg 120
aaaggtctca ggaaagggga cgcaatgatc gccatcacac g   161

<210> 80
<211> 76
<212> DNA
<213> Homo sapiens

<400> 80
gttagtggat gcgctcaagc tgcaggacca gctgaaggct cccgtgaaga ccttgtcaga 60
gggaataaag cgaaag   76

<210> 81

<211> 95
<212> DNA
<213> Homo sapiens

<400> 81
ctgcgctttg tgctgagcat cctggggaac ccgtcagtgg tgcttctgga tgagccgtcg 60
accgggatgg accccgaggg gcagcagcaa atgtg 95

<210> 82
<211> 120
<212> DNA
<213> Homo sapiens

<400> 82
gcaggtgatt cgggccacct ttagaaacac ggagaggggc gccctcctga ccacccacta 60
catggcagag gctgaggcgg tgtgtgaccg agtggccatc atggtgtcag gaaggctgag 120

<210> 83
<211> 141
<212> DNA
<213> Homo sapiens

<400> 83
atgtattggt tccatccaac acctgaaaag caaatttggc aaagactacc tgctggagat 60
gaagctgaag aacctggcac aaatggagcc cctccatgca gagatcctga ggcttttccc 120
ccaggctgct cagcaggaaa g 141

<210> 84
<211> 80
<212> DNA
<213> Homo sapiens

<400> 84
gttctcctcc ctgatggtct ataagttgcc tgttgaggat gtgcgacctt tatcacaggc 60
tttcttcaaa ttagagatag 80

<210> 85
<211> 56
<212> DNA
<213> Homo sapiens

<400> 85
ttaaacagag tttcgacctg gaggagtaca gcctctcaca gtctaccctg gagcag 56

<210> 86
<211> 1062
<212> DNA
<213> Homo sapiens

<400> 86
gttttcctgg agctctccaa ggagcaggag ctgggtgatc ttgaagagga ctttgatccc 60
tcggtgaagt ggaaactcct cctgcaggaa gagccttaaa gctccaaata ccctatatct 120
ttctttaatc ctgtgactct tttaaagata atattttata gccttaatat gccttatatc 180
agaggtggta caaaatgcat ttgaaactca tgcaataatt atcctcagta gtatttctta 240
cagtgagaca acaggcaatg tcagtgaggg cgatcgtagg gcataagcct aagccatacc 300
atgcagcctt tgtgccagca accaaatccc atgtttccta ctgtgttaag tttaaaaatg 360
catttattat agaattgtct acatttctga ggatgtcatg gagaatgctt aattttcttt 420
ctctgaactt caaaatatta aatattttct tatttttttg attaaagtat aaattaagac 480
accctattga cttccgggta aggggagtca attgattacc cagcagcaca gtatttgctt 540

```
tttataattc cctttttaaa tacttgttct taattgactg gttttccttt tctgtcattt 600
ttcagagttt agattgtgag tccatgtttt gtctgttgtg cctataaagg aaatttgaaa 660
tctgtatcat tctactataa agacacatgc acacgtatgt ttattgcagc actgtttaca 720
atagcaaaga cttggaacca accaaaatac ccacaaatga tagaccggat aaagaaaacg 780
tgacacatat acaccatgga atactatgca gccatagaaa aggatgagtt catattcttc 840
acagggacat ggatgaagct ggaaaccatc atcctcagca aactaacaca ggaacagaaa 900
accaaacacc gcatgttctc actcataagt gggaattgaa caatgagaat acatggacac 960
agggaggggga acaccacacc ctggggcctg ttgggggggat gggggctagg ggagggatag 1020
cattaggaga aatacctgat gtagatgatg ggttgatggg tg 1062


<210> 87
<211> 287
<212> DNA
<213> Homo sapiens

<400> 87
aattaatttt acttaggata agtgttgtta ttattgtttt tattgttgtt ctgttagtta 60
ctcaaaactt cattctaatt gtgccctgag tttgttaaaa taccatactg tattttgtg 120
taacatgtaa ataggcatta attttgaga aatagaaatg tttatcctta atgtatttt 180
aatttgctaa cattgatttt ttatttctt tcctgaaata gcttatttcc taaaatgaaa 240
gaatttattc tcagatgaat aatttttata tcagctattc ttatcag 287


<210> 88
<211> 280
<212> DNA
<213> Homo sapiens

<400> 88
agcaataaac aaataccaat gatgcgctca gccaacaatt cattacactc tctgaagagt 60
aactggacaa ggagaaaaac atagggaaaa aaccaacaga atttgttggc atgttctaca 120
cacagaccat ggcttttcag aagccaagct gaataaaaac agttttaaaa gaggcaacca 180
tttgtagagg agtccttgaa ggattcttca ttgtttttctt ggacaaaaag agaccagtgg 240
atccaagtgc ttcaaatact tctctcttat tttcttaact 280


<210> 89
<211> 141
<212> DNA
<213> Homo sapiens

<400> 89
ctattgctct gcaatattta ctttaccctg ttaatgaaca ggacaaaatg gttaaaaaag 60
agataagcgt gcgtcaacaa attcaggctc ttctgtacaa gaattttctt aaaaaatgga 120
gaataaaaag agagtttatt g 141


<210> 90
<211> 205
<212> DNA
<213> Homo sapiens

<400> 90
gaatggacaa taacattgtt tctagggcta tatttgtgca tcttttcgga acacttcaga 60
gctacccgtt ttcctgaaca acctcctaaa gtcctgggaa gcgtggatca gtttaatgac 120
tctggcctgg tagtggcata tacaccagtc agtaacataa cacaaaggat aatgaataag 180
atggccttgg cttcctttat gaaag 205


<210> 91
<211> 165
<212> DNA
<213> Homo sapiens
```

<400> 91
gaagaacagt cattgggaca ccagatgaag agaccatgga tatagaactt ccaaaaaaat 60
accatgaaat ggtgggagtt atatttagtg atactttctc atatcgcctg aagtttaatt 120
ggggatatag aatcccagtt ataaaggagc actctgaata cacag 165

<210> 92
<211> 104
<212> DNA
<213> Homo sapiens

<400> 92
aacactgttg ggccatgcat ggtgaaattt tttgttactt ggcaaagtac tggctaaaag 60
ggtttgtagc ttttcaagct gcaattaatg ctgcaattat agaa 104

<210> 93
<211> 227
<212> DNA
<213> Homo sapiens

<400> 93
gtcacaacaa atcattctgt aatggaggag ttgacatcag ttattggaat aaatatgaag 60
ataccacctt tcatttctaa gggagaaatt atgaatgaat ggtttcattt tacttgctta 120
gtttctttct cttcttttat atactttgca tcattaaatg ttgcaaggga aagaggaaaa 180
tttaagaaac tgatgacagt aatgggtctc cgagagtcag cattctg 227

<210> 94
<211> 142
<212> DNA
<213> Homo sapiens

<220>
<221> unsure
<222> 11
<223> n=unknown, may be a or g or c or t

<400> 94
gctctcctgg ngattgacat acatttgctt catcttcatt atgtccattt ttatggctct 60
ggtcataaca tcaatctcaa ttgtatttca tactggcttc atggtgatat tcacactcta 120
tagcttatat ggcctttctt tg 142

<210> 95
<211> 186
<212> DNA
<213> Homo sapiens

<400> 95
atagcattgg ctttcctcat gagtgtttta ataaggaaac ctatgctcgc tggtttggct 60
ggatttctct tcactgtatt ttggggatgt ctgggattca ctgtgttata cagacaactt 120
cctttatctt tgggatgggt attaagtctt cttagccctt ttgccttcac tgctggaatg 180
gcccag 186

<210> 96
<211> 148
<212> DNA
<213> Homo sapiens

<400> 96
gttacacacc tggataatta cttaagtggt gttatttttc ctgatccctc tggggattca 60

```
tacaaaatga tagccacttt tttcattttg gcatttgata ctcttttcta tttgatattc 120
acattatatt ttgagcgagt tttacctg                                    148


<210> 97
<211> 169
<212> DNA
<213> Homo sapiens

<400> 97
ataaagatgg ccatggggat tctccattat ttttccttaa gtcctcattt tggtccaaac 60
atcaaaatac tcatcatgaa atctttgaga atgaaataaa tcctgagcat tcctctgatg 120
attctttga accggtgtct ccagaattcc atggaaaaga agccataag              169


<210> 98
<211> 59
<212> DNA
<213> Homo sapiens

<400> 98
aatcagaaat gttataaaag aatataatgg aaagactgga aaagtagaag cattgcaag   59


<210> 99
<211> 111
<212> DNA
<213> Homo sapiens

<400> 99
gcatattttt tgacatatat gaaggacaga tcactgcaat acttgggcat aatggagctg 60
gtaaatcaac actgctaaac attcttagtg gattgtctgt ttctacagaa g          111


<210> 100
<211> 176
<212> DNA
<213> Homo sapiens

<400> 100
gatcagccac tatttataat actcaactct ctgaaataac tgacatggaa gaaattagaa 60
agaatattgg attttgtcca cagttcaatt ttcaatttga cttcctcact gtgagagaaa 120
acctcagggt atttgctaaa ataaagggga ttcagccaaa ggaagtggaa caagag      176


<210> 101
<211> 120
<212> DNA
<213> Homo sapiens

<400> 101
gtaaaaagaa ttataatgga attagacatg caaagcattc aagacattat tgctaaaaaa 60
ttaagtggtg ggcagaagag aaaactaaca ctagggattg ccatcttagg agatcctcag 120


<210> 102
<211> 139
<212> DNA
<213> Homo sapiens

<400> 102
gttttgctgc tagatgaacc aactgctgga ttggatccct tttcaagaca ccgagtgtgg 60
agcctcctga aggagcataa agtagaccga cttatcctct tcagtaccca attcatggat 120
gaggctgaca tcttggctg                                              139
```

Page 43

<210> 103
<211> 91
<212> DNA
<213> Homo sapiens

<400> 103
ataggaaagt atttctgtct aatgggaagt tgaaatgtgc aggatcatct ttgtttctga 60
agcgaaagtg gggtattgga tatcatttaa g   91

<210> 104
<211> 140
<212> DNA
<213> Homo sapiens

<400> 104
tttacacagg aatgaaatgt gtgacacaga aaaaatcaca tcccttatta agcagcacat 60
tcctgatgcc aagttaacaa cagaaagtga agaaaaactt gtatatagtt tgcctttgga 120
aaaaacgaac aaatttccag   140

<210> 105
<211> 120
<212> DNA
<213> Homo sapiens

<400> 105
atctttacag tgaccttgat aagtgttctg accagggcat aaggaattat gctgtttcag 60
tgacatctct gaatgaagta ttcttgaacc tagaaggaaa atcagcaatt gatgaaccag 120

<210> 106
<211> 199
<212> DNA
<213> Homo sapiens

<400> 106
attttgacat tgggaaacaa gagaaaatac atgtgacaag aaatactgga gatgagtctg 60
aaatggaaca ggttctttgt tctcttcctg aaacaagaaa ggctgtcagt agtgcagctc 120
tctggagacg acaaatctat gcagtggcaa cacttcgctt cttaaagtta aggcgtgaaa 180
ggagagctct tttgtgttt   199

<210> 107
<211> 167
<212> DNA
<213> Homo sapiens

<400> 107
gttactagta cttggaattg cttttatccc catcattcta gagaagataa tgtataaagt 60
aactcgtgaa actcattgtt gggagttttc acccagtatg tatttccttt ctctggaaca 120
aatcccgaag acgcctctta ccagcctgtt aatcgttaat aatacag   167

<210> 108
<211> 134
<212> DNA
<213> Homo sapiens

<400> 108
gatcaaatat tgaagacctc gtgcattcac tgaagtgtca ggatatagtt ttggaaatag 60
atgactttag aaacagaaat ggctcagatg atccctccta caatggagcc atcatagtgt 120

Page 44

<210> 109
<211> 138
<212> DNA
<213> Homo sapiens

<400> 109
gattacagat tttctgttgc gtgtaatacc aagaaattga attgttttcc tgttcttatg 60
ggaattgtta gcaatgccct tatgggaatt tttaacttca cggagcttat tcaaacggag 120
agcacttcat tttctcgt   138

<210> 110
<211> 108
<212> DNA
<213> Homo sapiens

<400> 110
gatgacatag tgctggatct tggttttata gatgggtcca tattttgtt gttgatcaca 60
aactgcgttt ctccttttat cggcatgagc agcatcagcg attataaa   108

<210> 111
<211> 171
<212> DNA
<213> Homo sapiens

<400> 111
aaaaatgttc aatcccagtt atggatttca ggcctctggc cttcagcata ctggtgtgga 60
caggctctgg tggacattcc attatacttc ttgattctct tttcaataca tttaatttac 120
tacttcatat ttctgggatt ccagctttca tgggaactca tgtttgtttt g   171

<210> 112
<211> 114
<212> DNA
<213> Homo sapiens

<400> 112
gtggtatgca taattggttg tgcagtttct cttatattcc tcacatatgt gctttcattc 60
atctttcgca agtggagaaa aaataatggc ttttggtctt ttggcttttt tatt   114

<210> 113
<211> 120
<212> DNA
<213> Homo sapiens

<400> 113
atcttaatat gtgtatccac aattatggta tcaactcaat atgaaaaact caacttaatt 60
ttgtgcatga ttttcatacc ttccttcact ttgctggggt atgtcatgtt attgatccag 120

<210> 114
<211> 81
<212> DNA
<213> Homo sapiens

<400> 114
ctcgacttta tgagaaactt ggacagtctg gacaatagaa taaatgaagt caataaaacc 60
attctttaa caaccttaat a   81

<210> 115
<211> 92
<212> DNA
<213> Homo sapiens

<400> 115
ccataccttc agagtgttat tttccttttt gtcataaggt gtctggaaat gaagtatgga 60
aatgaaataa tgaataaaga cccagttttc ag   92

<210> 116
<211> 121
<212> DNA
<213> Homo sapiens

<400> 116
aatctctcca cggagtagag aaactcatcc caatccggaa gagcccgaag aagaagatga 60
agatgttcaa gctgaaagag tccaagcagc aaatgcactc actgctccaa acttggagga 120
g   121

<210> 117
<211> 118
<212> DNA
<213> Homo sapiens

<400> 117
gaaccagtca taactgcaag ctgtttacac aaggaatatt atgagacaaa gaaaagttgc 60
ttttcaacaa gaaagaagaa aatagccatc agaaatgttt ccttttgtgt taaaaaag   118

<210> 118
<211> 92
<212> DNA
<213> Homo sapiens

<400> 118
gtgaagtttt gggattacta ggacacaatg gagctggtaa aagtacttcc attaaaatga 60
taactgggtg cacaaagcca actgcaggag tg   92

<210> 119
<211> 179
<212> DNA
<213> Homo sapiens

<400> 119
gtggtgttac aaggcagcag agcatcagta aggcaacagc atgacaacag cctcaagttc 60
ttggggtact gccctcagga gaactcactg tggcccaagc ttacaatgaa agagcacttg 120
gagttgtatg cagctgtgaa aggactgggc aaagaagatg ctgctctcag tatttcacg 179

<210> 120
<211> 76
<212> DNA
<213> Homo sapiens

<400> 120
attggtggaa gctcttaagc tccaggaaca acttaaggct cctgtgaaaa ctctatcaga 60
gggaataaag agaaag   76

<210> 121

<211> 95
<212> DNA
<213> Homo sapiens

<400> 121
ctgtgctttg tgctgagcat cctggggaac ccatcagtgg tgcttctaga tgagccgttc 60
accgggatgg accccgaggg gcagcagcaa atgtg 95

<210> 122
<211> 120
<212> DNA
<213> Homo sapiens

<400> 122
gcagatactt caggctaccg ttaaaaacaa ggagaggggc accctcttga ccacccatta 60
catgtcagag gctgaggctg tgtgtgaccg tatggccatg atggtgtcag gaacgctaag 120

<210> 123
<211> 141
<212> DNA
<213> Homo sapiens

<400> 123
gtgtattggt tccattcaac atctgaaaaa caagtttggt agagattatt tactagaaat 60
aaaaatgaaa gaacctaccc aggtggaagc tctccacaca gagattttga agcttttccc 120
acaggctgct tggcaggaaa g 141

<210> 124
<211> 80
<212> DNA
<213> Homo sapiens

<400> 124
atattcctct ttaatggcgt ataagttacc tgtggaggat gtccaccctc tatctcgggc 60
ctttttcaag ttagaggcga 80

<210> 125
<211> 56
<212> DNA
<213> Homo sapiens

<400> 125
tgaaacagac cttcaacctg gaggaataca gcctctctca ggctaccttg gagcag 56

<210> 126
<211> 769
<212> DNA
<213> Homo sapiens

<400> 126
gtattcttag aactctgtaa agagcaggag ctgggaaatg ttgatgataa aattgataca 60
acagttgaat ggaaacttct cccacaggaa gacccttaaa atgaagaacc tcctaacatt 120
caattttagg tcctactaca ttgttagttt ccataattct acaagaatgt ttccttttac 180
ttcagttaac aaaagaaaac atttaataaa cattcaataa tgattacagt tttcattttt 240
aaaaatttag gatgaaggaa acaaggaaat atagggaaaa gtagtagaca aaattaacaa 300
aatcagacat gttattcatc cccaacatgg gtctattttg tgcttaaaaa taatttaaaa 360
atcatacaat attaggttgg ttttcggtta ttatcaataa agctaacact gagaacattt 420
tacaaataaa aatatgagtt ttttagcctg aacttcaaat gtatcagcta tttttaaaca 480
ttatttactc ggattctaat ttaatgtgac attgactata agaaggtctg ataaactgat 540

```
gaaatggcac agcataacat ttaattataa tgacattctg attataaaat aaatgcatgt 600
gaattttagt acatattgaa gttatatgga agaagatagc cataatctgt aagaaagtac 660
cgcagttaat attttcttta gccaacttat attcaatgta tttttttatgg atccttttc  720
aaaggtagta tcagtaggca tagtcatttt ctgtatcttt tcacctcac             769
```

<210> 127
<211> 19
<212> DNA
<213> Homo sapiens

<400> 127
cagtgactat gtatccgtg   19

<210> 128
<211> 19
<212> DNA
<213> Homo sapiens

<400> 128
gatggtttct cctcacaac   19

<210> 129
<211> 19
<212> DNA
<213> Homo sapiens

<400> 129
caccagacaa tgaggatga   19

<210> 130
<211> 19
<212> DNA
<213> Homo sapiens

<400> 130
gctatattct tcaatggca   19

<210> 131
<211> 19
<212> DNA
<213> Homo sapiens

<400> 131
cctagaagta gaccgcctt   19

<210> 132
<211> 19
<212> DNA
<213> Homo sapiens

<400> 132
gttgtgagga gaaaccatc   19

<210> 133
<211> 19
<212> DNA
<213> Homo sapiens

<400> 133
ctggatggtt tcagtcaca   19

<210> 134
<211> 19
<212> DNA
<213> Homo sapiens

<400> 134
cagaaaagcc aatcgggtg   19

<210> 135
<211> 23
<212> DNA
<213> Homo sapiens

<400> 135
ccaggtatat gttgtttaac cag   23

<210> 136
<211> 20
<212> DNA
<213> Homo sapiens

<400> 136
gggtcagatt actgccttac   20

<210> 137
<211> 20
<212> DNA
<213> Homo sapiens

<400> 137
gaacattgaa gaaccaacac   20

<210> 138
<211> 20
<212> DNA
<213> Homo sapiens

<400> 138
gtaaggcagt aatctgaccc   20

<210> 139
<211> 18
<212> DNA
<213> Homo sapiens

<400> 139
ggaaactgga cagaatgc   18

<210> 140
<211> 19
<212> DNA
<213> Homo sapiens

<400> 140
ctaccctatt tcacatgcc   19

<210> 141
<211> 20
<212> DNA
<213> Homo sapiens

<400> 141
gtttctccca taataacagc   20

<210> 142
<211> 20
<212> DNA
<213> Homo sapiens

<400> 142
gctgttatta tgggagaaac   20

<210> 143
<211> 30
<212> DNA
<213> Homo sapiens

<400> 143
agactacagt aacaaaagcc tagtgcagcc   30

<210> 144
<211> 30
<212> DNA
<213> Homo sapiens

<400> 144
atccaatcct attagtgtga caaaggcttg   30

<210> 145
<211> 20
<212> DNA
<213> Homo sapiens

<400> 145
tcagcaaacc aaagcacttc   20

<210> 146
<211> 27
<212> DNA
<213> Homo sapiens

<400> 146
caagtgctgt tttattcatt atctgct   27

<210> 147
<211> 28
<212> DNA
<213> Homo sapiens

<400> 147

```
gtacatgaaa actcaccata tccatccc                                    28


<210> 148
<211> 20
<212> DNA
<213> Homo sapiens

<400> 148
tcattgctgg gatggatatg                                             20


<210> 149
<211> 19
<212> DNA
<213> Homo sapiens

<400> 149
ccctgtgatg gaggagttg                                              19


<210> 150
<211> 21
<212> DNA
<213> Homo sapiens

<400> 150
tgacatcaac tcctccatca c                                           21


<210> 151
<211> 20
<212> DNA
<213> Homo sapiens

<400> 151
gaatgctgaa tcttggagac                                             20


<210> 152
<211> 20
<212> DNA
<213> Homo sapiens

<400> 152
gattcagatt atcaaactgg                                             20


<210> 153
<211> 21
<212> DNA
<213> Homo sapiens

<400> 153
tggtgtaatt tttcctgacc c                                           21


<210> 154
<211> 22
<212> DNA
<213> Homo sapiens

<400> 154
aagggtcagg aaaaattaca cc                                          22
```

<210> 155
<211> 19
<212> DNA
<213> Homo sapiens

<400> 155
ggaattcagg agctactgg   19

<210> 156
<211> 22
<212> DNA
<213> Homo sapiens

<400> 156
gattgtctgt tccaacagaa gg   22

<210> 157
<211> 22
<212> DNA
<213> Homo sapiens

<400> 157
ccacttcctt tagatgaatc cc   22

<210> 158
<211> 22
<212> DNA
<213> Homo sapiens

<400> 158
aagtggaaca agaggtacaa cg   22

<210> 159
<211> 21
<212> DNA
<213> Homo sapiens

<400> 159
atggtaatcc caaaagtcag c   21

<210> 160
<211> 22
<212> DNA
<213> Homo sapiens

<400> 160
ggggatgtga tgagtaatga ag   22

<210> 161
<211> 22
<212> DNA
<213> Homo sapiens

<400> 161
cttcattact catcacatcc cc   22

<210> 162
<211> 19
<212> DNA
<213> Homo sapiens

<400> 162
acaacttccc caggaaccc   19

<210> 163
<211> 19
<212> DNA
<213> Homo sapiens

<400> 163
gatcaacagg ctggtacgg   19

<210> 164
<211> 22
<212> DNA
<213> Homo sapiens

<400> 164
caagaaaaat gctaagtccc ag   22

<210> 165
<211> 19
<212> DNA
<213> Homo sapiens

<400> 165
tgcccacacc agtaagcag   19

<210> 166
<211> 22
<212> DNA
<213> Homo sapiens

<400> 166
gaaaatcagt ggcactcaat tc   22

<210> 167
<211> 22
<212> DNA
<213> Homo sapiens

<400> 167
tgccactgat tttctagtct gc   22

<210> 168
<211> 19
<212> DNA
<213> Homo sapiens

<400> 168
ctgggatcac aaagccaac   19

<210> 169
<211> 20
<212> DNA
<213> Homo sapiens

<400> 169
cctttcagtt ccacctctcc   20

<210> 170
<211> 21
<212> DNA
<213> Homo sapiens

<400> 170
tccacactga gattctgaag c   21

<210> 171
<211> 19
<212> DNA
<213> Homo sapiens

<400> 171
aatacctttc ctgccctgc   19

<210> 172
<211> 19
<212> DNA
<213> Homo sapiens

<400> 172
gcctgactct ttgggtgac   19

<210> 173
<211> 19
<212> DNA
<213> Homo sapiens

<400> 173
tgagcgtggg tcagcaaac   19

<210> 174
<211> 20
<212> DNA
<213> Homo sapiens

<400> 174
gcaactcctc cttgggcaac   20

<210> 175
<211> 19
<212> DNA
<213> Homo sapiens

<400> 175
tttgttgccc aaggaggag   19

<210> 176

<211> 22
<212> DNA
<213> Homo sapiens

<400> 176
ggaaaaacaa gggagaacat cg   22

<210> 177
<211> 19
<212> DNA
<213> Homo sapiens

<400> 177
gcccacttgg attcttcac   19

<210> 178
<211> 22
<212> DNA
<213> Homo sapiens

<400> 178
ccacacctttt caaagcttct ac   22

<210> 179
<211> 22
<212> DNA
<213> Homo sapiens

<400> 179
atgtggtcct tgagaatgaa ac   22

<210> 180
<211> 22
<212> DNA
<213> Homo sapiens

<400> 180
actgtgaaag aaaacctcag gc   22

<210> 181
<211> 19
<212> DNA
<213> Homo sapiens

<400> 181
cttcatgtgg caaaatccc   19

<210> 182
<211> 20
<212> DNA
<213> Homo sapiens

<400> 182
tgtgctgtca atttggcatc   20

<210> 183
<211> 20

<212> DNA
<213> Homo sapiens

<400> 183
aagaagaaat ggggcatagg   20

<210> 184
<211> 22
<212> DNA
<213> Homo sapiens

<400> 184
tgtatttgga gacagttccc ac   22

<210> 185
<211> 19
<212> DNA
<213> Homo sapiens

<400> 185
aacaatcagt ggcgtggcg   19

<210> 186
<211> 22
<212> DNA
<213> Homo sapiens

<400> 186
gacatccagg aggacaggaa ag   22

<210> 187
<211> 21
<212> DNA
<213> Homo sapiens

<400> 187
gcagcctctt tcactccata c   21

<210> 188
<211> 22
<212> DNA
<213> Homo sapiens

<400> 188
cattgtgtca ggtgatgaaa ag   22

<210> 189
<211> 20
<212> DNA
<213> Homo sapiens

<400> 189
ttcatttcta ggcatcgcag   20

<210> 190
<211> 22
<212> DNA

<213> Homo sapiens

<400> 190
cattagcagg aggatcaaaa ag   22

<210> 191
<211> 21
<212> DNA
<213> Homo sapiens

<400> 191
tctagggcta tttttttggca c   21

<210> 192
<211> 19
<212> DNA
<213> Homo sapiens

<400> 192
cgctcccttt caaaatcac   19

<210> 193
<211> 21
<212> DNA
<213> Homo sapiens

<400> 193
tgcgagactt tgatgagaca c   21

<210> 194
<211> 20
<212> DNA
<213> Homo sapiens

<400> 194
agaccatcag ggaggagaac   20

<210> 195
<211> 18
<212> DNA
<213> Homo sapiens

<400> 195
tgtgccagca accaaatc   18

<210> 196
<211> 22
<212> DNA
<213> Homo sapiens

<400> 196
gctggagatg aagctgaaga ac   22

<210> 197
<211> 18
<212> DNA
<213> Homo sapiens

<400> 197
tttccacttc accgaggg   18

<210> 198
<211> 21
<212> DNA
<213> Homo sapiens

<400> 198
ccatgttttg tctgttgtgc c   21

<210> 199
<211> 22
<212> DNA
<213> Homo sapiens

<400> 199
cacccatcaa cccatcatct ac   22

<210> 200
<211> 22
<212> DNA
<213> Homo sapiens

<400> 200
aggcacaaca gacaaaacat gg   22

<210> 201
<211> 22
<212> DNA
<213> Homo sapiens

<400> 201
aagcatgatg tagtagtgac cc   22

<210> 202
<211> 25
<212> DNA
<213> Homo sapiens

<400> 202
cttgggtagt tttggattca ggtgc   25

<210> 203
<211> 27
<212> DNA
<213> Homo sapiens

<400> 203
agatccattg aagacatttg aggagtg   27

<210> 204
<211> 20
<212> DNA
<213> Homo sapiens

<400> 204
gattgacata catttgcttc   20

<210> 205
<211> 20
<212> DNA
<213> Homo sapiens

<400> 205
tacagtgaag agaaatccag   20

<210> 206
<211> 18
<212> DNA
<213> Homo sapiens

<400> 206
tggaattaga catgcaaa   18

<210> 207
<211> 19
<212> DNA
<213> Homo sapiens

<400> 207
tgaagaggat aagtcggtc   19

<210> 208
<211> 18
<212> DNA
<213> Homo sapiens

<400> 208
tataatcgct gatgctgc   18

<210> 209
<211> 26
<212> DNA
<213> Homo sapiens

<400> 209
accaggccag agtcattaaa ctgatc   26

<210> 210
<211> 25
<212> DNA
<213> Homo sapiens

<400> 210
ccgaaaagat gcacaaatat agccc   25

<210> 211
<211> 26
<212> DNA
<213> Homo sapiens

<400> 211

ctcaaaactt cattctaatt gtgccc   26

<210> 212
<211> 18
<212> DNA
<213> Homo sapiens

<400> 212
agataagcgt gcgtcaac   18

<210> 213
<211> 20
<212> DNA
<213> Homo sapiens

<400> 213
tcttatggga attgttagca   20

<210> 214
<211> 19
<212> DNA
<213> Homo sapiens

<400> 214
ttatgactgg ttcctcctc   19

<210> 215
<211> 18
<212> DNA
<213> Homo sapiens

<400> 215
tcatcaacat ttcccagc   18

<210> 216
<211> 21
<212> DNA
<213> Homo sapiens

<400> 216
gaaatactgg agatgagtct g   21

<210> 217
<211> 19
<212> DNA
<213> Homo sapiens

<400> 217
gagcttaaga gcttccacc   19